

April 31st, 2012

Michael Wolfram  
Program Manager  
Pacific Islands Office  
USEPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

**RE: OCEAN DUMPING PERMIT OD93-02 SPECIAL**

Dear Michael:

Pursuant to the requirements of the above referenced permit, we are herewith submitting the Quarterly ocean dumping report for the period of January 2012 through March 2012 for Samoa Tuna Processors. No waste has been generated or transferred or dumped in this quarter. Enclosed are the following:

- \* EPA Forms 1, 2 and 3.
- \* Results of Monthly Onshore Storage Tank Analysis. No testing was done. N/A
- \* Letter to ASEPA reporting exceedances and irregularities during the 3 month period where applicable. There were no exceedances. N/A
- \* Monthly Site Monitoring Reports. N/A
- \* Results of Monthly Site Monitoring Analysis. N/A

Please advise if additional information is required.

Sincerely,



Craig Double  
Facility Manager  
Samoa Tuna Processors Inc.

Enclosures:  
Pacific Island Office

Cc(1) Except Vessel Logs

Director  
American Samoa Environmental  
Protection Agency  
American Samoa Government  
Pago Pago, American Samoa 96799

Cc(1) Complete Report

Director of Engineering  
Chicken of the Sea International  
9330 Scranton Road  
Suite 500  
San Diego, California 92121

Allan Ota  
Wetlands Office  
US EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Cc(1) Vessel Logs Only

Commanding Chief  
U.S. Coast Guard Liaison Office  
P.O. Box 249  
Pago Pago, American Samoa 96799

Cc(1) Except Vessel Logs:

Project Leader  
Office of Environmental Services  
U.S. Fish and Wildlife Service  
300 Ala Moana Boulevard  
P.O. Box 50167  
Honolulu, Hawaii 96850

John Naughton  
Pacific Island Regional Office  
1601 Kapiolani BLvd.  
Suite 1110  
Honolulu, Hawaii 96814-4700

Executive Director  
Western Pacific Regional Fishery  
Management Council  
1164 Bishop Street, Suite 1405  
Honolulu, Hawaii 96813

STAR KIST SAMOA, CO  
P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799  
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSES RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - December 09, 2011  
REPORTING DATE : January 09 2012

SAMPLES	AMMONIA ( mg N/L )	TOTAL NITROGEN (mg N/L )	TOTAL PHOSPHORUS ( mg P/L )	NON FILTERABLE RESIDUE ( mg/L )	VOLATILE NON FILTERABLE RESIDUE ( mg/L )	OIL & GREASE ( mg / L )
Stn : 1-1Mtr Control	0.028	0.20	0.010	5.0	1.5	0.67
Stn : 1-3 Mtr Control	0.020	0.15	0.020	4.0	3.0	0.63
Stn : 1-10 Mtr Control	0.040	0.20	0.025	5.5	1.5	0.56
Stn : 1-1Mtr	0.028	0.05	0.025	4.5	2.0	0.49
Stn : 1-3 Mtr	0.028	0.35	0.005	5.0	2.5	0.25
Stn : 1-10 Mtr	0.041	0.30	0.020	4.5	2.5	0.64
Stn : 2-1 Mtr	0.043	0.25	0.010	6.5	1.5	0.34
Stn : 2-3 Mtr	0.022	0.10	0.015	4.5	2.5	0.48
Stn : 2-10 Mtr	0.026	0.10	0.000	5.0	2.5	0.59
Stn : 3-1 Mtr	0.033	0.15	0.000	5.5	2.5	0.22
Stn : 3-3 Mtr	0.024	0.15	0.015	5.5	2.0	0.58
Stn : 3-10 Mtr	0.032	0.15	0.020	6.5	1.5	0.49
Stn : 4-1 Mtr	0.022	0.10	0.000	5.0	2.5	0.57
Stn : 4-3 Mtr	0.041	0.15	0.010	5.0	3.0	0.58
Stn : 4-10 Mtr	0.015	0.05	0.005	5.0	3.0	0.49
Stn : 5-1 Mtr	0.023	0.30	0.005	5.0	2.5	0.38
Stn : 5-3 Mtr	0.031	0.30	0.005	5.0	3.0	0.34
Stn : 5-10 Mtr	0.035	0.00	0.015	5.5	3.5	0.51

  
Joe Carney: Engineering Manager

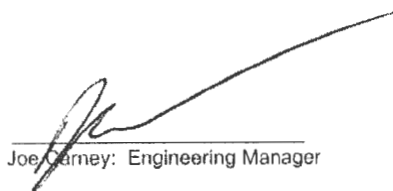
19 2012

**STAR KIST SAMOA, CO**  
**P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799**  
**WATER TREATMENT DEPARTMENT**

**REPORT OF ANALYSES RESULTS**

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - January 11, 2012  
 REPORTING DATE : February 10, 2012

SAMPLES	AMMONIA ( mg N/L )	TOTAL NITROGEN (mg N/L )	TOTAL PHOSPHORUS ( mg P/L )	NON FILTERABLE RESIDUE ( mg/L )	VOLATILE NON FILTERABLE RESIDUE ( mg/L )	OIL & GREASE ( mg / L )
Stn : 1-1Mtr Control	0.022	0.15	0.045	4.5	2.5	0.61
Stn : 1-3 Mtr Control	0.018	0.45	0.010	5.5	3.0	0.70
Stn :1-10 Mtr Control	0.033	0.20	0.025	4.0	2.0	0.49
Stn : 1-1Mtr	0.026	0.25	0.010	5.0	3.0	0.51
Stn : 1-3 Mtr	0.018	0.35	0.005	5.0	1.5	0.58
Stn : 1-10 Mtr	0.027	0.25	0.020	6.0	3.0	0.38
Stn : 2-1 Mtr	0.037	0.40	0.015	5.0	2.5	0.73
Stn : 2-3 Mtr	0.039	0.45	0.050	5.0	2.0	0.47
Stn : 2-10 Mtr	0.025	0.20	0.030	4.5	3.0	0.24
Stn : 3-1 Mtr	0.031	0.50	0.010	4.5	2.5	0.58
Stn : 3-3 Mtr	0.037	0.35	0.020	5.5	3.0	0.38
Stn : 3-10 Mtr	0.020	0.35	0.050	5.5	4.0	0.37
Stn : 4-1 Mtr	0.039	0.30	0.020	6.0	2.0	0.50
Stn : 4-3 Mtr	0.020	0.25	0.075	5.5	1.0	0.49
Stn : 4-10 Mtr	0.030	0.40	0.060	4.0	1.5	0.75
Stn : 5-1 Mtr	0.033	0.35	0.020	5.0	2.0	0.25
Stn : 5-3 Mtr	0.024	0.25	0.030	4.5	4.0	0.47
Stn : 5-10 Mtr	0.021	0.25	0.010	4.0	2.5	0.50

  
 Joe Carney: Engineering Manager



**STAR KIST SAMOA, CO**  
**P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799**  
**WATER TREATMENT DEPARTMENT**

**REPORT OF ANALYSES RESULTS**

SAMPLE TYPE :      Sea Water - Ocean Monitoring Sampling - February 09, 2012  
 REPORTING DATE :    March 08, 2012

SAMPLES	AMMONIA	TOTAL NITROGEN	TOTAL PHOSPHORUS	NON FILTERABLE RESIDUE	VOLATILE NON FILTERABLE RESIDUE	OIL & GREASE
	( mg N/L )	(mg N/L )	( mg P/L )	( mg/L )	( mg/L )	( mg / L )
Stn : 1-1Mtr Control	0.018	0.30	0.015	5.5	2.5	0.34
Stn : 1-3 Mtr Control	0.025	0.20	0.025	5.0	2.0	0.45
Stn : 1-10 Mtr Control	0.031	0.40	0.010	4.5	2.5	0.50
Stn : 1-1Mtr	0.042	0.25	0.015	5.0	3.0	0.24
Stn : 1-3 Mtr	0.025	0.10	0.000	4.5	4.0	0.49
Stn : 1-10 Mtr	0.043	0.20	0.035	4.5	2.5	0.35
Stn : 2-1 Mtr	0.046	0.25	0.005	5.0	2.5	0.45
Stn : 2-3 Mtr	0.035	0.05	0.030	5.5	2.5	0.49
Stn : 2-10 Mtr	0.025	0.20	0.005	5.0	2.0	0.35
Stn : 3-1 Mtr	0.030	0.35	0.000	5.0	3.5	0.35
Stn : 3-3 Mtr	0.032	0.35	0.010	5.5	2.0	0.67
Stn : 3-10 Mtr	0.022	0.05	0.015	4.5	2.5	0.35
Stn : 4-1 Mtr	0.025	0.15	0.025	4.0	1.5	0.75
Stn : 4-3 Mtr	0.032	0.05	0.015	6.0	2.0	0.49
Stn : 4-10 Mtr	0.027	0.00	0.015	4.0	2.0	0.47
Stn : 5-1 Mtr	0.040	0.30	0.015	5.5	3.5	0.37
Stn : 5-3 Mtr	0.040	0.05	0.025	5.5	3.5	0.23
Stn : 5-10 Mtr	0.023	0.30	0.035	5.5	3.0	0.57

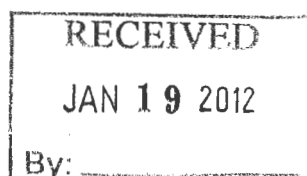
  
 Joe Carney: Engineering Manager

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

12 January, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
15 January, 2012

## Introduction

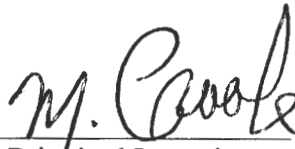
On January 12, 2012 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dumpsite area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0540:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0627:** The *Blue Moon* entered the dumpzone circle @ 14°22.5' S x 170°38.7' W.
- 0638:** The *Blue Moon* arrived at the dump-zone center, where observed light westerly winds and slight mixed-swell seas initially indicated disposal operations be conducted in the western dump-zone quadrant.
- 0650:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or west (W) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with mixed low swells to 1.5 meters and light west/SW winds with the barometer reading 29.49. Current set and drift of the ship were slow to the east at 0.3 knot. No floating materials or sea life were observed here.
- 0700:** The *Blue Moon* began disposal operations in the western dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.2 miles long until 0815 hrs. when the slacking, east setting current shifted to a slow, westerly set. Disposal operations were accordingly, then shifted to the eastern zone quadrant and resumed with, again, a N to S reciprocal elliptical pattern (See Plot #1) until 1010 hrs. when the cargo discharge had been completed
- 1020:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The west winds had backed off to calm conditions with still partly cloudy skies. The waste plume appeared here as elongate large area of heavy glassy surface sheen

extending in a N to S direction and moving now, gradually to the west. The current/wind drift of the ship was GPS determined to be westerly @ 0.3 knots. No sea life or floating materials were observed.

- 1030:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed similar coloration/sheen qualities as those at Station #1, with the addition of the scum swaths and suspended particulates described in Table 1. The average drift rate of the ship with current and wind was GPS determined to be westerly (W) at a slow rate of 0.2 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1040:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed the same heavy sheen over clear sub-surface waters as Stations #1 without the scum and suspended particles. Sea & wind conditions remained quite calm at this point and the drift rate of the ship between Stations #3 & 4 was 0.3 knots, again, to the west.
- 1050:**     Station Four monitoring. This area showed, in addition to the heavy surface sheen, more of the fine, brownish suspended particulate material described fully in Table 1. The westerly current/drift rate of the ship was again noted here to be at 0.3 knots.
- 1105:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 1.2 NM west of the zone center near where the discharge had originally begun in the west quadrant. The leading edge of the waste plume was clearly visible at this location as the edge of the large, continuous area of heavy sheen described earlier with clear, natural appearing blue waters further down-current to the west. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.46 when monitoring activities were concluded at 1120 hrs. The *Blue Moon* exited the disposal zone at 1125 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1220 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> January 12, 2012	<b>Sea Conditions:</b> Slight w/ mixed swells to 1.5 meters.				<b>Wind:</b> Calm to variable west & SW to 3 knots.		<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.49 ^ 29.50 29.46		<b>Current Set &amp; Drift Rate:</b> East, slack then shift to west @ average 0.25 knots			<b>Sky:</b> Partly cloudy 20 - 50%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0650	Control	1	27.2	8.3	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.3			
		10	27.2	8.3			
1020	Station 1	1	29.4	8.4	Slightly Pungent	The edge of a large, continuous area of heavy surface sheen extending to the west, over deep, blue & clear water. No floating or suspended materials	
		3	29.4	8.4			
		10	28.9	8.4			
1030	Station 2	1	28.3	8.4	Slightly Pungent	A few patches or swaths of floating whitish scum amid the broad area of heavy surface sheen. Also present were fine, brownish, suspended particulate materials to the limit of visibility (3 meters).	
		3	28.3	8.4			
		10	28.3	8.4			
1040	Station 3	1	28.9	8.4	Slightly Pungent	Same as Station #1.	
		3	28.9	8.4			
		10	28.9	8.4			
1050	Station 4	1	29.4	8.4	Slightly Pungent	Still in the large area of continuous, heavy surface sheen with more very fine, suspended brownish particulates, not too dense in concentration extending down to the limit of visibility (3-4 meters).	
		3	29.4	8.4			
		10	29.4	8.4			
1105	Station 5	1	28.9	8.4	None	Leading Edge of the waste plume. Fairly distinct boundary of glassy plume surface sheen and clear, natural blue seas further down-current to the west. No more floating or particulate materials present at this location.	
		3	28.9	8.4			
		10	28.9	8.4			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.02'	South	170° 39.44'	West
Station 1	14° 23.90'	South	170° 36.91'	West
Station 2	14° 23.85'	South	170° 37.18'	West
Station 3	14° 23.86'	South	170° 37.45'	West
Station 4	14° 23.87'	South	170° 37.87'	West
Station 5	14° 23.90'	South	170° 39.53'	West

N ▲

170 40.69 W

170 31.92 W

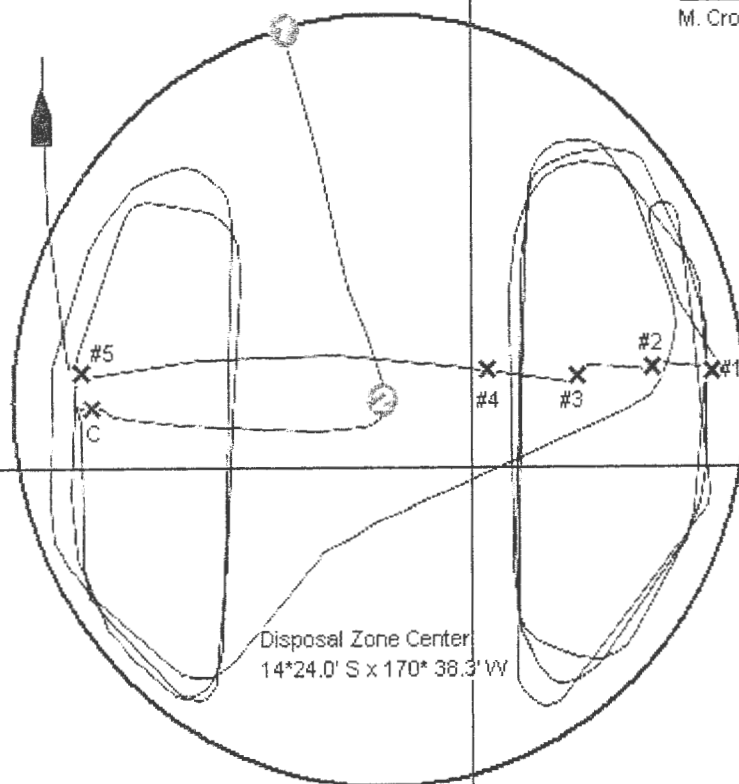
170 35.15 W

121.47 S

PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
12 January, 2012

*M. Crook*

M. Crook, Investigator



→ ○ ←  
Current Set: East to Slack to West

124.24 S

Disposal Zone Center  
14°24.0' S x 170° 38.3' W

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

09 February, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
15 February, 2012

current. The current/wind drift of the ship was GPS determined to be southwesterly @ 1.3 knots. No sea life or floatable materials were observed.

- 1010:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some streaks and patches of light, glassy surface sheen but no floating or suspended particulate material. The average drift rate of the ship with current and wind was GPS determined to be southwesterly at 1.2 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1020:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed a single streak of faint surface sheen over clear blue water. The drift rate of the ship between Stations #3 & 4 was again, 1.2 knots to the SW.
- 1035:**     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM SW of Station #3, showed a few streaks and remnants of vessel discharge track-lines of typical glassy surface sheen characteristic of the high strength wastewater. These streaks and patches extended in a NW to SE direction over 2 NM long and was within about 0.25 NM from the visible leading edge of the plume. There were no floating or suspended materials. The SW current/drift rate of the ship was again noted here to be at 1.0 knots.
- 1045:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and located 0.24 NM south-southeast of the zone center (See Plot #1). The leading edge of the waste plume was not clearly visible at this location and consisted of just a few scattered streaks of very light glassy surface sheen with clear, natural appearing blue waters further down-current to the southwest. The final drift rate of the ship was noted to be 1.0 knots again to the SW. Other than a few random seabirds flying by, no notable sea life was observed at this position or any of the other sampling stations. The final barometer reading was 29.60 when monitoring activities were concluded at 10:55 hrs. The *Blue Moon* exited the disposal zone at 11:08 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 12:00 hours.

Prepared by M. Crook  
Mike Crook, Principal Investigator



## Introduction

On February 09, 2012 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0603:** The *Blue Moon* entered the dumpzone circle @ 14°22.5' S / 170°38.6' W.
- 0614:** The *Blue Moon* arrived at the dump-zone center, where observed light northeasterly winds and slight northeast (NE) seas initially indicated disposal operations be conducted in the northeastern dump-zone quadrant.
- 0625:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or northeast of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with station's position were recorded (Table 1). Seas at this time were slight with NE swells to 1.0 meters and a NE breeze of 10 knots with the barometer reading 29.59 and cloudy skies. Current set and drift of the ship were to the southwest at 0.8 knots. No floating materials or sea life were observed here.
- 0637:** The *Blue Moon* began disposal operations in the NE dump zone quadrant and continued discharging cargo (high-strength waste water) with a northwest (NW) to southeast (SE) reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 09:49 hrs.
- 0955:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The NE winds had increased slightly to 12 knots with still cloudy skies. The waste plume appeared here as an oblong body of light/moderate glassy surface sheen extending in a northwest (NW) to SE direction and moving slowly to the southwest (SW). However at this exact position there was no visual evidence of the waste plume as it had already been moved off by the

## OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

Date: February 09 2012	<u>Sea Conditions:</u> Slight with Northeast swells to 1.0 meters.				<u>Wind:</u> Northeast @ 7 - 12 knots	<u>Visibility:</u> Unlimited
	<u>Barometer:</u> 29.56 ^ 29.60		<u>Current Set &amp; Drift Rate:</u> Southwest @ average 1.1 knots		<u>Sky:</u> Mostly cloudy	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color
0625	Control	1	27.2	8.3	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.
		3	27.2	8.3		
		10	27.2	8.3		
0955	Station 1	1	28.3	8.3	None	Same color qualities as Control Station; clear and natural blue with no floating or suspended particulate material. Waste plume noted just southwest of this position having been moved by the current
		3	27.8	8.3		
		10	27.8	8.3		
1010	Station 2	1	27.8	8.3	Slightly Pungent	Streaks and patches of light, glassy surface sheen from broken up vessel track lines. No sign of floating or particulate materials.
		3	27.8	8.3		
		10	27.8	8.3		
1020	Station 3	1	28.3	8.3	none	A single faint remnant track line of very light glassy surface sheen over deep, clear blue.
		3	28.3	8.3		
		10	28.3	8.3		
1035	Station 4	1	28.3	8.3	Slightly Pungent	A few scattered streaks & patches of very light, glassy surface sheen over deep, clear blue. No floating or suspended particulate or other material.
		3	28.3	8.3		
		10	28.3	8.3		
1045	Station 5	1	28.3	8.3	Slightly Pungent	Leading edge of the waste plume: Same color & sheen observations as at Station #4 extending roughly on a NW to SE line through the disposal zone center.
		3	28.3	8.3		
		10	28.3	8.3		

### SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 23.30'	South	170° 37.33'	West
Station 1	14° 23.57'	South	170° 36.95'	West
Station 2	14° 23.57'	South	170° 37.20'	West
Station 3	14° 23.81'	South	170° 37.48'	West
Station 4	14° 23.96'	South	170° 37.86'	West'
Station 5	14° 24.24'	South	170° 38.23'	West

N ▲

170° 41.19' W

170° 37.80' W

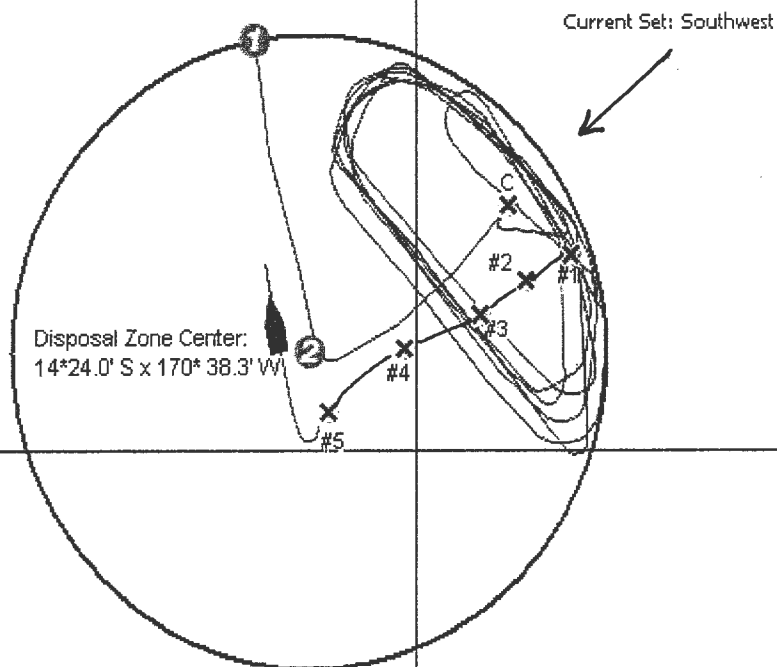
170° 34.41' W

14° 21.06' S

PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
09 February, 2012

*M. Crook*

M. Crook, Investigator



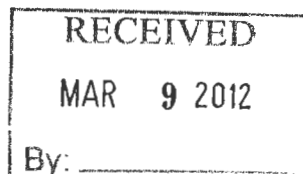
14° 24.45' S

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

08 March, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
12 March, 2012

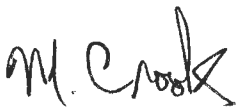
## Introduction

On March 8, 2012 the wastewater tanker *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0530:** The *Blue Moon* departed Pago Pago Harbor bound for the dumpsite location with Master/Principal Investigator, Chief and Mate on board.
- 0620:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0629:** The *Blue Moon* arrived at the dump-zone center, where observed steady southeasterly winds and moderate southeasterly seas indicated disposal operations be conducted in the southeast dump-zone quadrant.
- 0640:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or southeast (SE) of the dumpzone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were moderate with SE swells to 2.0 meters and a steady SE wind of 10+ knots and the barometer reading 29.46. Current set and drift, of the ship, were to the northwest at 0.6 knots. No floating materials or sea life were observed here.
- 0650:** The *Blue Moon* began disposal operations in the SE disposal zone quadrant and continued discharging material with a northeast to southwest reciprocal, elliptical type pattern approximately 2 miles long (see Plot 1). Wastewater discharging was completed at 09:30 hrs.
- 0945:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE winds had increased to 15 knots during the discharge along with barometric pressure to 29.48. Skies remained partly cloudy. The waste plume was very apparent here as a large area of heavy glassy surface sheen over clear, blue water. The current/wind drift of the ship was now GPS determined to be northwesterly at 0.7 knots. No sea life or floatable/suspended particulates or other materials were observed.

- 0955:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position had remnants of the *Blue Moon's* discharge track lines visible as patches and streaks of moderate surface sheen over clear natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined to be northwesterly (NW) at 0.7 knots between stations 2 & 3 (See Plot #1). Again, no sea-life or floatable materials were noted at this position.
- 1005:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed more streaks and patches of lighter surface sheen than had been noted at Stations #1 & 2, over clear blue water. The drift rate of the ship between Stations #3 & 4 was 0.8 knots to the northwest.
- 1015:**     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 miles NW of Station #3, showed increasingly lighter sheen characteristics than the previous sample stations. There were no floating or suspended materials observed. The NW current/drift rate of the ship was noted here to be 0.8 knots which had carried the last visible remnants of the plume about an additional 0.25 of a mile further down-current to the NW.
- 1025:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.3 NM east-southeast of the zone center (see Plot #1). The leading edge of the waste plume was barely visible at this location as some occasional patches and streaks of very light glassy surface sheen with clear, natural appearing blue waters further down-current to the NW. No notable sea life was observed at this position or any of the previous stations other than a few random seabirds flying by. The final barometer reading was 29.47 when monitoring activities were concluded at 10:35 hrs. The *Blue Moon* exited the disposal zone at 10:47 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 11:35 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> 08 March, 2012	<b>Sea Conditions:</b> Moderate w/ Southeast swells to 2.0 meters.				<b>Wind:</b> SE @ 10 - 15 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.46 ↑ 29.48 ↓ 29.46		<b>Current Set &amp; Drift Rate:</b> Northwest @ average 0. 7 knots		<b>Sky:</b> Partly Cloudy, 40 - 60%	
<b>Time</b>	<b>Station</b>	<b>Depth (meters)</b>	<b>Temp. (°C)</b>	<b>pH</b>	<b>Odor</b>	<b>Color</b>
0640	Control	1	27.2	8.5	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.
		3	27.2	8.4		
		10	27.2	8.4		
0945	Station 1	1	28.3	8.4	Pungent	Large area of heavy, glassy surface sheen over clear, blue sub-surface waters. No floating or suspended particulate materials.
		3	28.3	8.4		
		10	28.3	8.4		
0955	Station 2	1	28.3	8.4	Slightly Pungent	Broken up track lines in streaks & patches of moderate, glassy surface sheen. No floating or suspended material
		3	28.3	8.4		
		10	28.3	8.4		
1005	Station 3	1	28.3	8.4	Slightly Pungent	Broad area of broken streaks and patches of light glassy surface sheen over deep, clear blue. No floating or suspended particulate or other materials.
		3	28.3	8.4		
		10	28.3	8.4		
1015	Station 4	1	28.9	8.4	Slightly Pungent	Scattered broken patches of light surface sheen. No floating or suspended materials
		3	28.9	8.4		
		10	28.3	8.4		
1025	Station 5	1	28.3	8.4	None	Leading edge of the waste plume: Indistinct area of occasional very light patches of semi-glassy surface sheen about 0.25 NM northwest of Station #4. No floating or suspended particulate material.
		3	28.3	8.4		
		10	28.3	8.4		

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.75'	South	170° 37.40'	West
Station 1	14° 24.66'	South	170° 37.01'	West
Station 2	14° 24.54'	South	170° 37.20'	West
Station 3	14° 24.37'	South	170° 37.47'	West
Station 4	14° 24.26'	South	170° 37.78'	West
Station 5	14° 24.17'	South	170° 37.97'	West

14 24.97 S

170 41.98 W

PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
08 March, 2012

*M. Crook*

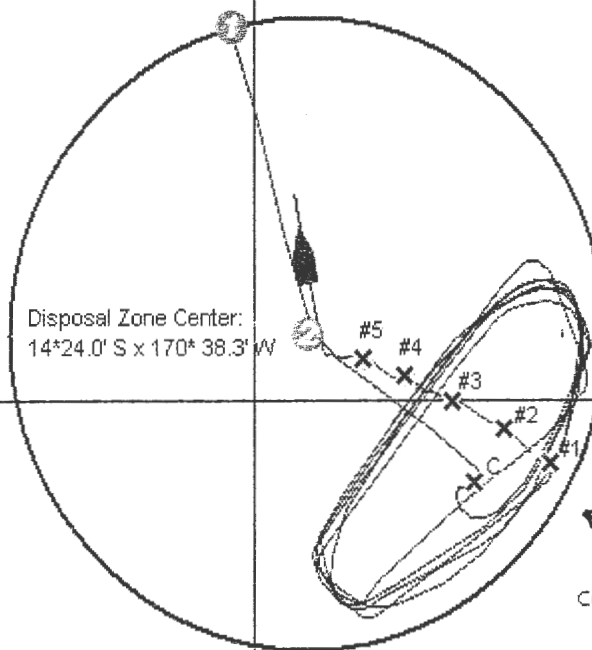
M. Crook, Investigator

170 38.55 W

170 35.12 W

14 24.36 S

Disposal Zone Center:  
14°24.0' S x 170° 38.3' W



Current Set: Northwest



Cumulative Yearly Data on Fish Processing Wastes  
Generated at Samoa Tuna Processors and Disposed at the Ocean Site  
MPRSA 102 Special Permit #OD 93-02

Reporting Period: From 1-Jan 2012 31-Mar 2012

Month & Year	DAF Sludge Generated (gallons/month)	Cooker Water Generated (gallons/month)	Press Water Generated (gallons/month)	Total Generated (gallons/month)	Coagulate polymer (pounds/month)	Volume Ocean Disposed (gallons/month)
Jan. 2012	0	0	0	0	0	0
Feb. 2012	0	0	0	0	0	0
Mar. 2012	0	0	0	0	0	0
Apr. 2012						
May. 2012						
Jun. 2012						
Jul. 2012						
Aug. 2012						
Sep. 2012						
Oct. 2012						
Nov. 2012						
Dec. 2012						
Cumulative Yearly Totals	0	0	0	0	0	0

NOTE: A separate table shall be prepared for each calendar year.

APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month:

Jan-12

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
1/1/2012	No waste for January			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

# APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month:

Feb-12

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
2/1/2012	No Waste for February			#VALUE!	
Totals	0	0	0	#VALUE!	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month:

Mar-12

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	600,00	100,000	40,000	200,000	200,000
3/1/2012	No Waste for March			#VALUE!	
Totals	0	0	0	#VALUE!	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of Aluminum Sulfate:

0 pounds/month

## APPENDIX B - REPORT FORM 2

Data Form for 3-Month Report on Waste Stream Analyses for Samoa Tuna Processors MPRSA 102 Permit #OD 93-02

Reporting Period: From January 2012 to March 2012

### Samoa Tuna Processors - Onshore Storage Monitoring Report

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-Day Biological Oxygen Demand (mg/L)	Oil and Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
January-12									
February-12									
March-12									
OD 93-02 Permit Limits	54,590	58,760	87,780	48,630	2,820	11,070	5,200	5.8 to 7.5	.97 to 1.03

NOTE: An asterisk(\*) next to the waste concentration signifies that an exceedance of the permit limit has occurred.

July 26<sup>th</sup>, 2012

Michael Wolfram  
Program Manager  
Pacific Islands Office  
USEPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

**RE: OCEAN DUMPING PERMIT OD93-02 SPECIAL**

Dear Michael:

Pursuant to the requirements of the above referenced permit, we are herewith submitting the Quarterly ocean dumping report for the period of April 2012 through June 2012 for Samoa Tuna Processors Inc. No waste has been generated or transferred or dumped in this quarter. Enclosed are the following:

- \* EPA Forms 1, 2 and 3.
- \* Results of Monthly Onshore Storage Tank Analysis. No testing was done. N/A
- \* Letter to ASEPA reporting exceedances and irregularities during the 3 month period where applicable. There were no exceedances. N/A
- \* Monthly Site Monitoring Reports. N/A
- \* Results of Monthly Site Monitoring Analysis.

Please advise if additional information is required.

Sincerely,



Craig Double  
Facility Manager  
Samoa Tuna Processors Inc.

Enclosures:  
Pacific Island Office

Cc(1) Except Vessel Logs

Director  
American Samoa Environmental  
Protection Agency  
American Samoa Government  
Pago Pago, American Samoa 96799

Cc(1) Complete Report

Director of Engineering  
Chicken of the Sea International  
9330 Scranton Road  
Suite 500  
San Diego, California 92121

Allan Ota  
Wetlands Office  
US EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Cc(1) Vessel Logs Only

Commanding Chief  
U.S. Coast Guard Liaison Office  
P.O. Box 249  
Pago Pago, American Samoa 96799

Cc(1) Except Vessel Logs:

Project Leader  
Office of Environmental Services  
U.S. Fish and Wildlife Service  
300 Ala Moana Boulevard  
P.O. Box 50167  
Honolulu, Hawaii 96850

John Naughton  
Pacific Island Regional Office  
1601 Kapiolani BLvd.  
Suite 1110  
Honolulu, Hawaii 96814-4700

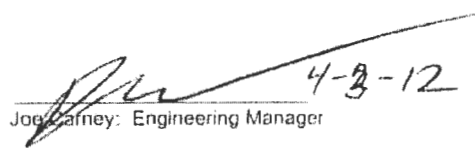
Executive Director  
Western Pacific Regional Fishery  
Management Council  
1164 Bishop Street, Suite 1405  
Honolulu, Hawaii 96813

STAR KIST SAMOA, CO  
P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799  
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSES RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - March, 08 2012  
REPORTING DATE : April 03, 2012

SAMPLES	AMMONIA ( mg N/L )	TOTAL NITROGEN (mg N/L )	TOTAL PHOSPHORUS ( mg P/L )	NON FILTERABLE RESIDUE ( mg/L )	VOLATILE NON FILTERABLE RESIDUE ( mg/L )	OIL & GREASE ( mg / L )
Stn : 1-1Mtr Control	0.020	0.25	0.020	4.5	1.5	0.49
Stn : 1-3 Mtr Control	0.025	0.10	0.030	4.0	2.5	0.50
Stn : 1-10 Mtr Control	0.040	0.30	0.010	3.5	2.0	0.24
Stn : 1-1Mtr	0.046	0.15	0.005	5.0	1.0	0.50
Stn : 1-3 Mtr	0.023	0.20	0.015	5.0	3.0	0.49
Stn : 1-10 Mtr	0.022	0.05	0.000	5.5	2.5	0.47
Stn : 2-1 Mtr	0.027	0.40	0.010	4.5	2.5	0.49
Stn : 2-3 Mtr	0.043	0.25	0.030	4.0	2.0	0.50
Stn : 2-10 Mtr	0.050	0.45	0.000	4.5	3.0	0.37
Stn : 3-1 Mtr	0.027	0.35	0.025	5.0	3.0	0.49
Stn : 3-3 Mtr	0.033	0.35	0.010	4.5	2.5	0.35
Stn : 3-10 Mtr	0.039	0.10	0.010	5.0	2.5	0.13
Stn : 4-1 Mtr	0.019	0.40	0.010	5.5	2.5	0.49
Stn : 4-3 Mtr	0.026	0.00	0.010	5.5	3.0	0.47
Stn : 4-10 Mtr	0.035	0.05	0.000	5.5	3.0	0.49
Stn : 5-1 Mtr	0.019	0.35	0.005	5.5	3.0	0.47
Stn : 5-3 Mtr	0.038	0.05	0.035	4.0	3.5	0.49
Stn : 5-10 Mtr	0.037	0.20	0.005	5.5	3.0	0.50

 4-3-12  
Jonathan J. Carey: Engineering Manager

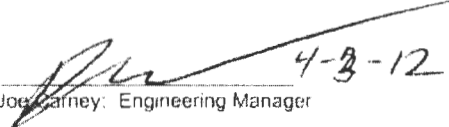


STAR KIST SAMOA, CO  
P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799  
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSES RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - March,08 2012  
REPORTING DATE : April 03, 2012

SAMPLES	AMMONIA ( mg N/L )	TOTAL NITROGEN (mg N/L )	TOTAL PHOSPHORUS ( mg P/L )	NON FILTERABLE RESIDUE ( mg/L )	VOLATILE NON FILTERABLE RESIDUE ( mg/L )	OIL & GREASE ( mg / L )
Stn : 1-1Mtr Control	0.020	0.25	0.020	4.5	1.5	0.49
Stn : 1-3 Mtr Control	0.025	0.10	0.030	4.0	2.5	0.50
Stn :1-10 Mtr Control	0.040	0.30	0.010	3.5	2.0	0.24
Stn : 1-1Mtr	0.046	0.15	0.005	5.0	1.0	0.50
Stn : 1-3 Mtr	0.023	0.20	0.015	5.0	3.0	0.49
Stn : 1-10 Mtr	0.022	0.05	0.000	5.5	2.5	0.47
Stn : 2-1 Mtr	0.027	0.40	0.010	4.5	2.5	0.49
Stn : 2-3 Mtr	0.043	0.25	0.030	4.0	2.0	0.50
Stn : 2-10 Mtr	0.050	0.45	0.000	4.5	3.0	0.37
Stn : 3-1 Mtr	0.027	0.35	0.025	5.0	3.0	0.49
Stn : 3-3 Mtr	0.033	0.35	0.010	4.5	2.5	0.35
Stn : 3-10 Mtr	0.039	0.10	0.010	5.0	2.5	0.13
Stn : 4-1 Mtr	0.019	0.40	0.010	5.5	2.5	0.49
Stn : 4-3 Mtr	0.026	0.00	0.010	5.5	3.0	0.47
Stn : 4-10 Mtr	0.035	0.05	0.000	5.5	3.0	0.49
Stn : 5-1 Mtr	0.019	0.35	0.005	5.5	3.0	0.47
Stn : 5-3 Mtr	0.038	0.05	0.035	4.0	3.5	0.49
Stn : 5-10 Mtr	0.037	0.20	0.005	5.5	3.0	0.50

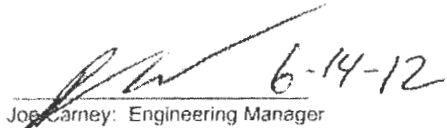
 4-3-12  
Joe Carney: Engineering Manager

STAR KIST SAMOA, CO  
P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799  
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSES RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - May 04, 2012  
REPORTING DATE : June - 09- 2012

SAMPLES	AMMONIA ( mg N/L )	TOTAL NITROGEN (mg N/L )	TOTAL PHOSPHORUS ( mg P/L )	NON FILTERABLE RESIDUE ( mg/L )	VOLATILE NON FILTERABLE RESIDUE ( mg/L )	OIL & GREASE ( mg / L )
Stn : 1-1Mtr Control	0.027	0.45	0.015	4.5	2.5	0.23
Stn : 1-3 Mtr Control	0.040	0.20	0.015	5.0	1.5	0.34
Stn :1-10 Mtr Control	0.039	0.10	0.015	5.5	2.0	0.47
Stn : 1-1Mtr	0.045	0.25	0.015	4.5	2.5	0.38
Stn : 1-3 Mtr	0.030	0.35	0.010	3.5	1.5	0.49
Stn : 1-10 Mtr	0.024	0.25	0.020	5.0	2.5	0.57
Stn : 2-1 Mtr	0.040	0.05	0.020	5.5	2.0	0.57
Stn : 2-3 Mtr	0.026	0.30	0.025	5.0	2.5	0.34
Stn : 2-10 Mtr	0.020	0.05	0.005	5.5	2.5	0.57
Stn : 3-1 Mtr	0.027	0.25	0.005	5.0	1.5	0.46
Stn : 3-3 Mtr	0.020	0.05	0.000	4.0	1.5	0.58
Stn : 3-10 Mtr	0.019	0.30	0.005	4.5	2.0	0.34
Stn : 4-1 Mtr	0.035	0.05	0.030	5.0	1.0	0.58
Stn : 4-3 Mtr	0.032	0.35	0.020	5.5	2.5	0.23
Stn : 4-10 Mtr	0.035	0.35	0.000	4.5	2.0	0.34
Stn : 5-1 Mtr	0.024	0.20	0.020	5.0	2.0	0.36
Stn : 5-3 Mtr	0.032	0.25	0.005	5.0	3.0	0.49
Stn : 5-10 Mtr	0.034	0.15	0.015	5.0	1.5	0.45


 6-14-12  
Joe Carney: Engineering Manager

**STAR KIST SAMOA, CO**  
**P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799**  
**WATER TREATMENT DEPARTMENT**

**REPORT OF ANALYSES RESULTS**

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampl      June 09 2012  
 REPORTING DATE : July - 03 - 2012

SAMPLES	AMMONIA	TOTAL NITROGEN	TOTAL PHOSPHORUS	NON FILTERABLE RESIDUE	VOLATILE NON FILTERABLE RESIDUE	OIL & GREASE
	( mg N/L )	(mg N/L )	( mg P/L )	( mg/L )	( mg/L )	( mg / L )
Stn : 1-1Mtr Control	0.043	0.15	0.000	5.0	2.5	0.35
Stn : 1-3 Mtr Control	0.023	0.20	0.005	5.5	2.0	0.45
Stn : 1-10 Mtr Control	0.041	0.25	0.010	5.0	2.0	0.38
Stn : 1-1Mtr	0.034	0.20	0.025	5.0	2.5	0.46
Stn : 1-3 Mtr	0.044	0.30	0.010	5.0	2.5	0.47
Stn : 1-10 Mtr	0.030	0.15	0.015	5.5	3.5	0.56
Stn : 2-1 Mtr	0.034	0.20	0.020	4.5	3.0	0.43
Stn : 2-3 Mtr	0.049	0.25	0.015	4.5	2.5	0.56
Stn : 2-10 Mtr	0.046	0.15	0.005	4.5	2.5	0.43
Stn : 3-1 Mtr	0.037	0.15	0.020	5.5	3.0	0.34
Stn : 3-3 Mtr	0.041	0.30	0.000	5.0	3.5	0.33
Stn : 3-10 Mtr	0.043	0.10	0.020	6.0	2.5	0.34
Stn : 4-1 Mtr	0.041	0.15	0.005	5.5	3.5	0.54
Stn : 4-3 Mtr	0.048	0.25	0.020	4.5	3.0	0.22
Stn : 4-10 Mtr	0.055	0.15	0.010	4.5	3.5	0.34
Stn : 5-1 Mtr	0.044	0.30	0.000	4.5	2.5	0.35
Stn : 5-3 Mtr	0.047	0.30	0.030	5.5	2.0	0.45
Stn : 5-10 Mtr	0.037	0.05	0.030	5.0	3.0	0.58

 3 7 2012  
 Joe Carney: Engineering Manager

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

06 April, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
16 April, 2012

## Introduction

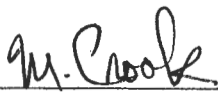
On April 06, 2012 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0845:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0939:** The *Blue Moon* entered the dumpzone circle @ 14°22.5' S x 170°38.7' W.
- 0949:** The *Blue Moon* arrived at the dump-zone center, where observed light southeast (SE) winds and slight south (S) & SE swells initially indicated disposal operations be conducted in the southeastern dump-zone quadrant.
- 0957:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or SE of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with mixed S & SE swells to 1.5 meters and light SSE winds with the barometer reading 29.56. It was noted here that the current set and drift of the ship had now shifted somewhat from NW to due north at 0.9 knots indicating that disposal operations should be shifted accordingly to the southern zone quadrant. No floating materials or sea life were observed.
- 1009:** The *Blue Moon* began disposal operations in the southeastern dump zone quadrant then, according to the change in current set, proceeded to the southern quadrant and continued discharging cargo (high strength waste water) with an East (E) to West (W) reciprocal, elongated elliptical pattern, approximately 2.2 miles long until completion at 1324 hrs. (See Plot #1).
- 1330:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The waste plume was not apparent at this position having already been moved off to the north by the current, which was GPS determined to be northerly @ 0.7

knots. No sea life or floating materials were observed.

- 1340:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. The waste plume appeared here as elongate large area of heavy glassy surface sheen over clear blue and extending in a E to W direction for over 2 NM and moving steadily to the north. The average drift rate of the ship with current and wind was GPS determined to be northerly (N) at a rate of 0.6 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1350:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed the same heavy sheen as Station #2 with additional large (3 x 20 meter) swaths of floating scum and large brownish particles along with finer and lighter suspended particulates (See Table 1). Sea & wind (SSE @ 7kts.) conditions remained constant at this point and the drift rate of the ship between Stations #3 & 4 was 0.8 knots, again, to the north.
- 1400:**     Station Four monitoring. This area showed, in addition to the heavy surface sheen, more swaths of the floating brownish scum along with the finer suspended particulate material described more fully in Table 1. The northerly current/drift rate of the ship was noted here to be at 0.7 knots.
- 1415:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 1.1 NM north of the zone center. The leading edge of the waste plume was clearly visible at this location as a long east to west reaching narrow area of broken up old vessel track lines of heavy sheen with clear, natural appearing blue waters further down-current to the north. None of the floating scum or suspended particulates present at previous stations were noted here. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.50 when monitoring activities were concluded at 1430 hrs. The *Blue Moon* exited the disposal zone at 1439 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1530 hours.

Prepared by   
Mike Crook, Principal Investigator

## OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> 06 April, 2012		<b>Sea Conditions:</b> Slight w/ mixed south & SE swells to 1.5 meters. <b>Wind:</b> South-southeast @ 5 - 7 knots. <b>Visibility:</b> Very good to unlimited <b>Barometer:</b> 29.53 ↑ 29.56 ↓ 29.50 <b>Current Set &amp; Drift Rate:</b> Northwest shift to north @ average 0.7 knots <b>Sky:</b> Partly cloudy 50 - 80%				
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color
0957	Control	1	29.7	8.4	None	Clear and natural, deep pelagic blue w/ no floating or suspended materials.
		3	29.5	8.4		
		10	29.4	8.4		
1330	Station 1	1	30.8	8.4	None	Same as Control Station, as the current had already moved this edge of the waste plume off to the north.
		3	30.6	8.4		
		10	30.3	8.4		
1340	Station 2	1	30.3	8.4	Slightly Pungent	A large, continuous band of moderate surface sheen extending to the north, over deep, blue & clear water. No floating or suspended materials
		3	30.2	8.4		
		10	29.8	8.4		
1350	Station 3	1	30.9	8.4	Pungent	Several large (20 x 3 meters) swaths of floating brown scum amid the broad area of heavy surface sheen. Also present were fine, white/gray, suspended particulate materials to the limit of visibility (3 meters).
		3	29.8	8.4		
		10	29.8	8.4		
1400	Station 4	1	30.2	8.4	Pungent	Another large area of continuous heavy surface sheen with more floating swaths of large brownish particulates/scum, along with finer suspended gray/white particulates extending down to the limit of visibility (3-4 meters).
		3	30.1	8.4		
		10	29.6	8.4		
1415	Station 5	1	30.2	8.4	Slightly Pungent	Leading Edge of the waste plume, nearly 1.5 NM north of Station #4. Fairly distinct boundary of glassy surface sheen from old vessel discharge track lines and clear, natural blue seas further down-current to the north. No more floating or particulate materials present at this location.
		3	29.8	8.4		
		10	29.6	8.4		

### SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.56'	South	170° 37.32'	West
Station 1	14° 25.25'	South	170° 38.15'	West
Station 2	14° 24.98'	South	170° 38.17'	West
Station 3	14° 24.76'	South	170° 38.22'	West
Station 4	14° 24.49'	South	170° 38.18'	West
Station 5	14° 22.95'	South	170° 38.33'	West



N

170 41.19 W

170 37.80 W

170 34.41 W

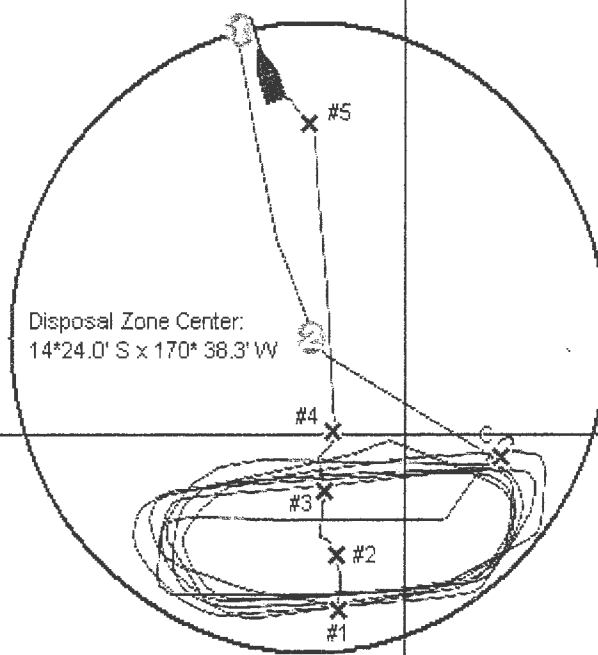
14 21.06 S

PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
06 April, 2012

*M. Crook*

M. Crook, Investigator

14 24.45 S



Current Set: North



# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

09 June, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
12 June, 2012

## Introduction

On June 09, 2012 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0520:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0615:** The *Blue Moon* entered the dumpzone circle @ 14°22.5' S x 170°38.7' W.
- 0626:** The *Blue Moon* arrived at the dump-zone center, where observed southeast winds and slight east to southeasterly seas initially indicated disposal operations be conducted in the southeastern (SE) dump-zone quadrant.
- 0635:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or SE of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with East & SE swells to 1.5 meters and SE winds at 7 knots (kts.) with the barometer reading 29.59. Current set and drift of the ship, by GPS, were to the west at 0.5 knots. No floating materials or sea life were observed here.
- 0650:** The *Blue Moon* began disposal operations in the southeastern dump zone quadrant and continued discharging cargo (high strength waste water) with a northeast (NE) to southwest (SW) reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 09:50 hrs.
- 1000:** Station One Monitoring (See Plot #1). Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE wind had increased to 10 kts. with partly cloudy skies. The waste plume was visible here as broken patches of heavy glassy surface sheen over clear blue sub-surface water. The current/wind drift of the ship was GPS determined to be northwesterly (NW) at 0.5 knots. No floating or suspended materials were noted here.

- 1015:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some light surface sheen of previous vessel track lines as the only visible indication of the waste plume. The average drift rate of the ship with current and wind was GPS determined here to be northwesterly (NW) at a rate of 0.6 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 1025:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed a broad area of continuous streaks and patches of moderate to heavy surface sheen along with widespread floating and suspended brown particulates in dense concentration extending down to the limit of visibility (approx. 3 - 4 meters). Sea & wind conditions remained the same as with the previous two sample stations and the drift rate of the ship between Stations #3 & 4 was 0.6 knots, again, to the northwest.
- 1035:**     Station Four monitoring. This position was in the same large area of heavy surface sheen as Station #3 and showed more floating and suspended particulate material but finer in size, less concentrated and of a lighter gray color. The northwesterly current/drift rate of the ship was again noted here to be at 0.6 knots. No sea-life was observed.
- 1045:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.24 NM south of the zone center (See Plot #1). The waste plume's leading edge was barely distinctive at this location as a few faint spots of light, glassy surface sheen with clear, natural appearing blue waters underneath and further down-current to the NW. No more of the fine floating or suspended particles were noted. The final drift rate of the ship was noted to be 0.8(NW) knots. Other than a few random seabirds flying by, no significant sea life was observed at this position or any of the previous stations. The final barometer reading was 29.60 when monitoring activities were concluded at 1058 hrs. The *Blue Moon* exited the disposal zone at 1110 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1200 hours.

Prepared by Mike Crook  
 Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

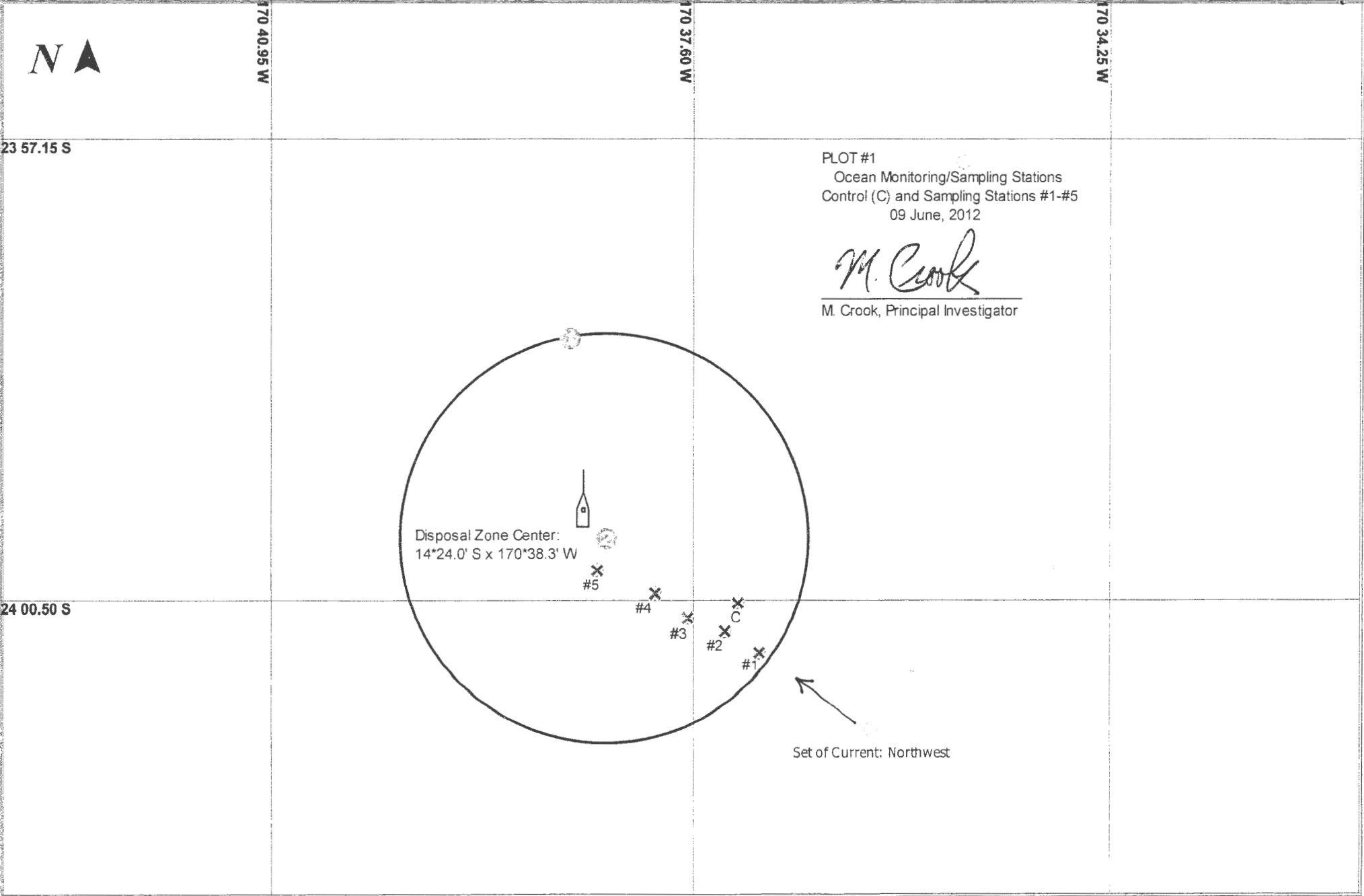
**Table 1**

<b>Date:</b> 09 June, 2012	<b>Sea Conditions:</b> Slight w/ East & Southeast swells to 1.5 meters.					<b>Wind:</b> Southeast @ 7 - 10 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.59 - 29.60		<b>Current Set &amp; Drift Rate:</b> Northwest @ average 0.6 knots			<b>Sky:</b> Partly Cloudy, 20 - 60%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0635	Control	1	27.9	8.6	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.7	8.6			
		10	27.7	8.6			
1000	Station 1	1	28.7	8.6	Slightly Pungent	Broken patches of previous vessel track lines and streaks of heavy surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.	
		3	28.3	8.6			
		10	28.5	8.6			
1015	Station 2	1	28.4	8.6	Slightly Pungent	Light & broken surface sheen over deep, clear blue. Heavy surface sheen areas further down-current to the northwest. No particulates or floating scum.	
		3	28.2	8.6			
		10	28.2	8.6			
1025	Station 3	1	28.4	8.8	Slightly Pungent	Moderate glassy surface sheen w/ fine, brownish particulate material, both suspended & floating and present down to the limit of visibility in dense concentration.	
		3	28.4	8.8			
		10	28.3	8.8			
1035	Station 4	1	28.5	8.7	Slightly Pungent	Heavy glassy surface sheen w/ more floating & suspended particulate material, and present down to the limit of visibility. Lighter colored and less dense in concentration than Station #3.	
		3	28.5	8.7			
		10	28.5	8.7			
1045	Station 5	1	28.7	8.6	Slightly Pungent	Leading edge of waste plume and 0.24 NM south of the disposal zone center (See Plot #1). Location showed just a few faint streaks of surface sheen over deep, clear, natural appearing blue water. No more suspended or floating particulate material or sea life noted.	
		3	28.4	8.6			
		10	28.3	8.6			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.45'	South	170° 37.33'	West
Station 1	14° 24.89'	South	170° 37.16'	West
Station 2	14° 24.81'	South	170° 37.43'	West
Station 3	14° 24.63'	South	170° 37.59'	West
Station 4	14° 24.49'	South	170° 37.85'	West
Station 5	14° 24.25'	South	170° 38.26'	West

199,000



191,000

N ▲

170 39.90 W

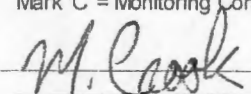
170 36.69 W

170 33.48 W

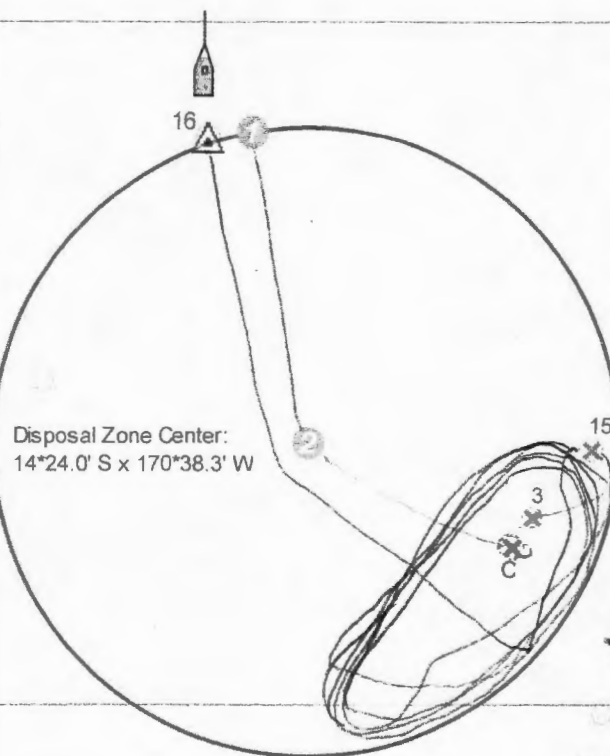
23 58.08 S

24 01.29 S

09 June, 2012 - Sat.  
Voyage # 5579  
Starkist Co. Cargo, Trip #1  
\*Ocean Monitoring/Sampling Conducted  
Mark 'C' = Monitoring Control Sample Station



M. Crook, Master  
F/V Blue Moon



Disposal Zone Center:  
14°24.0' S x 170°38.3' W

Wind: Southeast @ 7 - 10 kts.

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

03 May, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
09 May, 2012

## Introduction

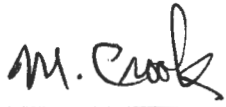
On May 3, 2012 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dumpsite area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0528:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0619:** The *Blue Moon* entered the dumpzone circle @ 14°22.7' S x 170°38.7' W.
- 0630:** The *Blue Moon* arrived at the dump-zone center, where observed light westerly winds and slight mixed south/SW swell seas initially indicated disposal operations be conducted in the western dump-zone quadrant.
- 0640:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or west (W) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with mixed, low south & SW swells to 1.5 meters and a 2 knot west wind with the barometer reading 29.49. Current set and drift of the ship were slow to the east at 0.3 knot. No floating materials or sea life were observed here.
- 0656:** The *Blue Moon* began disposal operations in the western dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.2 miles long until 1005 hrs. when the cargo discharge had been completed
- 1010:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The light west winds had backed off to near calm conditions with still cloudy skies. The waste plume was not visually present here, having apparently already been moved off to the east by the current. The current/wind drift of the ship was GPS determined to be easterly @ 0.6 knots. No sea life or floating materials were observed.



- 1020:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. The waste plume appeared here as elongate large area of heavy glassy surface sheen extending in a N to S direction and moving gradually to the east. No sea life or floating materials were observed. The average drift rate of the ship with current and wind was GPS determined to be easterly (E) at a rate of 0.4 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1030:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed the same moderate sheen over clear sub-surface waters as Stations #2. Sea & wind conditions remained quite calm at this point and the drift rate of the ship between Stations #3 & 4 was 0.4 knots, again, to the east.
- 1040:**     Station Four monitoring. This area showed an even heavier surface sheen than the previous two stations but still had clear subsurface water. The easterly current/drift rate of the ship was noted here to be at 0.5 knots.
- 1050:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.13 NM WNW (See Plot #1) of the zone center. The leading edge of the waste plume was clearly visible at this location as the edge of the large, continuous area of moderate surface sheen described earlier with clear, natural appearing blue waters just further down-current to the east. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.51 when monitoring activities were concluded at 1105 hrs. The *Blue Moon* exited the disposal zone at 1116 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1205 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> 03 May, 2012	<b>Sea Conditions:</b> Slight with South/Southwest swells to 1.5 meters.					<b>Wind:</b> Calm to West @ 2 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.48 ↑ 29.51		<b>Current Set &amp; Drift Rate:</b> East @ average 0.5 knots			<b>Sky:</b> Cloudy; 70 - 90%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0640	Control	1	28.8	8.5	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	28.7	8.5			
		10	28.9	8.5			
1010	Station 1	1	30.2	8.5	None	Same color qualities as Control Station; clear and natural blue with no floating or suspended particulate material. Waste plume noted just east of this position having been moved off by the current	
		3	30.0	8.5			
		10	29.6	8.5			
1020	Station 2	1	29.7	8.5	Slightly Pungent	Streaks and large patches of moderate glassy surface sheen from broken up, north to south running vessel discharge track lines. No sign of floating or particulate materials.	
		3	29.5	8.5			
		10	29.3	8.5			
1030	Station 3	1	29.8	8.5	Slightly Pungent	Same color qualities as Station #2	
		3	29.6	8.5			
		10	29.5	8.5			
1040	Station 4	1	29.7	8.5	Slightly Pungent	Large north to south extending area of heavy, glassy surface sheen over deep, clear blue. No floating or suspended particulate or other material.	
		3	29.4	8.5			
		10	29.4	8.5			
1050	Station 5	1	29.7	8.5	Slightly Pungent	Leading edge of the waste plume: Same color & sheen observations as at Station #4 and located very close (0.13 NM) west-northwest of the disposal zone center.	
		3	29.8	8.5			
		10	29.5	8.5			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.12'	South	170° 39.32'	West
Station 1	14° 24.07'	South	170° 39.49'	West
Station 2	14° 24.02'	South	170° 39.21'	West
Station 3	14° 23.95'	South	170° 38.93'	West
Station 4	14° 23.98'	South	170° 38.65'	West
Station 5	14° 23.87'	South	170° 38.36'	West

MA 37-11-021.

MA 90-23 021.

MA 69T-021.

M. Cook

M. Crook, Investigator

1422.72 \$

Current Set: West



Disposal Zone Center:  
14°24.0' S x 170° 38.3' W

**1426.09 \$**



April 12, 2013

Mr. Michael Wolfram  
U. S. EPA Region 9  
Pacific Insular Area Program (CMD-5)  
75 Hawthorne Street  
San Francisco, CA 94105

Dr. Toafa Vaiaga'e  
Director, AS EPA  
Office of the Governor  
EOB Utulei, American Samoa 96799

Gentlemen :

Re : **Discharge Monitoring Report for the Months of January, February and March of 2013, under NPDES No . AS0000019 as issued to Star Kist Samoa, CO.**

Attached is the Star Kist Samoa's Discharge Monitoring Reports covering the months of January, February and March of 2013.

Star Kist Samoa met all Effluent limits.

Sincerely



Joe Carney

Manager , Engineering and Maintenance

Wa \ ls : \ npdes \ samoa

Attachments :

cc :

Mr. Alan Ota  
Mr. Brett Butler

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799  
FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799  
ATTN: MR. JOE CARNEY

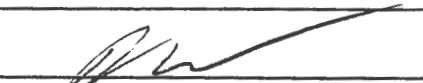
AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2013	1/31/2013

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	81	82		0		
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	685.5	806.3		0		
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	7.0		7.1		0		
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM		8.5 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	1823.9	2531.9		*****	*****	*****	*****	0		
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	977.8	1422.0		*****	*****	*****	*****	0		
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	827.1	914.5		*****	73.6	87.4		0		
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	81.5	125.5		*****	*****	*****	*****	0		
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe Carney Engineering & Maint TYPED OR PRINTED			684-644-4232	4-12-13	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

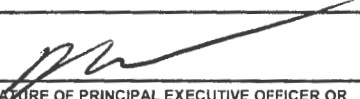
AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2013	1/31/2013

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease 03582 1 0 Effluent Gross	SAMPLE MEASUREMENT	872.6	1078.7		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant 50050 1 0 Effluent Gross	SAMPLE MEASUREMENT	1.278636	1.680000		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	MGD	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe Carney Engineering & Maint TYPED OR PRINTED			684-644-4232	1/2/13	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**Wastewater Summary Report for the month of January 2013**

Date	Production Tons	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1																			
2																			
3																			
4																			
5																			
6																			
7	338.7827																		
8	370.3978	0.930000	514.3	13.4	82	7.0	7.0	80.0	618.7	151.3	1170.1	7.1	54.9	100.0	773.4	87.4	675.9	776.8	6007.7
9	399.9564	0.470000	832.1	20.0	82	7.0	7.0					5.5	21.5	78.0					
10	408.8410	1.280000	779.1	19.5	80	7.0	7.0												
11	424.0765	1.340000	715.5	17.8	80	7.0	7.0												
12		0.240000	164.3	4.2	80	7.0	7.0												
13																			
14	410.7285	1.420000	588.3	17.6	80	7.0	7.0												
15	400.7140	1.420000	816.2	20.2	80	7.0	7.0	71.8	847.9	143.3	1692.2	8.2	96.8	99.0	1169.1	76.9	908.1	654.7	7731.2
16	409.9059	1.500000	810.9	20.0	82	7.0	7.1					5.3	66.1	114.0	1422.0				
17	421.5625	1.590000	842.7	19.7	82	7.0	7.0												
18	424.2365	1.500000	826.8	19.5	82	7.0	7.0												
19	400.8927	1.180000	646.6	16.5	82	7.0	7.0												
20		1.040000	296.8	6.8	80	7.0	7.0												
21																			
22	416.6664	1.130000	455.8	12.1	80	7.0	7.1												
23	429.8553	1.580000	810.9	19.9	82	7.0	7.0	82.1	1078.7	192.7	2531.9	6.4	84.1	87.0	1143.1	69.6	914.5	806.3	10594.2
24	425.9439	1.580000	805.6	20.6	82	7.0	7.0					6.0	78.8	91.0	1195.7				
25	421.2833	1.680000	726.1	17.2	80	7.0	7.0												
26	409.9351	1.280000	598.9	14.4	80	7.0	7.0												
27	420.3107	0.910000	323.3	7.6	80	7.0	7.0												
28	415.4101	1.340000	630.7	15.7	80	7.0	7.0												
29	413.1288	1.610000	800.3	19.9	81	7.0	7.1	70.6	945.2	142.0	1901.2	9.3	124.5	76.0	1017.5	60.5	810.0	504.3	6752.0
30	419.2884	1.540000	810.9	19.9	82	7.0	7.0					9.8	125.5	86.0	1101.4				
31		1.570000	800.3	19.9	80	7.0	7.0												
TOT	8181.9165	28.130000	14596.4	362.4					3490.6		7295.5		652.3		7822.2		3308.5		31085.0
AVG	409.0958	1.278636	663.5	16.5	82			76.1	872.6	157.3	1823.9	7.2	81.5	91.4	977.8	73.6	827.1	685.5	7771.3

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799  
FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY


AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
2/1/2013	2/28/2013

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	81	82		0		
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	714.0	74.7		0		
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	6.9	*****	7.1		0		
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM	*****	8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	1717.3	2168.0		*****	*****	*****	*****	0		
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	1194.3	1413.3		*****	*****	*****	*****	0		
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	1094.3	1250.0		*****	82.3	91.1		0		
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	125.7	173.8		*****	*****	*****	*****	0		
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe Carney Engineering & Maintenance TYPED OR PRINTED			684-644-423	24-12-13	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799  
FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799  
ATTN: MR. JOE CARNEY


AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
2/1/2013	2/28/2013

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease 03582 1 0 Effluent Gross	SAMPLE MEASUREMENT	884.8	921.6		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant 50050 1 0 Effluent Gross	SAMPLE MEASUREMENT	1.275185	1.780000		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	MGD	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe Carney Engineering & Maint TYPED OR PRINTED			684-644-4232	2/2/13	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**Wastewater Summary Report for the month of February 2013**

Date	Production Tons	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1		0.560000	699.6	17.3	82	6.9	7.1												
2		1.210000	572.4	14.7	82	7.0	7.0												
3		1.030000	492.9	11.7	80	7.0	7.0												
4	415.0739	1.370000	588.3	14.9	80	6.9	7.0												
5	434.0318	1.650000	826.8	19.5	82	7.0	7.0	65.4	897.4	158.0	2168.0	8.0	109.8	103.0	1413.3	91.1	1250.0	737.0	10112.7
6	419.6262	1.640000	800.3	19.6	82	7.0	7.0					7.9	107.7	87.0	1186.5				
7	416.4582	1.590000	731.4	17.9	82	7.0	7.0												
8	401.5739	1.540000	662.5	16.8	82	7.0	7.0												
9		0.210000	148.4	3.7	80	7.0	7.0												
10		0.820000	201.4	4.5	80	7.0	7.0												
11	402.7675	1.200000	609.5	14.5	82	7.0	7.0												
12	413.8201	1.590000	731.4	17.9	82	7.0	7.0	67.7	895.2	114.7	1516.6	10.8	142.8	94.0	1242.9	79.5	1051.2	741.7	9807.1
13	432.3764	1.320000	800.3	19.7	82	7.0	7.0					9.6	105.4	84.0	922.1				
14	427.4853	1.780000	699.6	17.8	82	7.0	7.0												
15	424.5144	1.610000	773.8	19.7	82	6.9	7.0												
16	416.9970	1.560000	736.7	17.9	82	7.0	7.0												
17		0.810000	365.7	8.5	80	7.0	7.0												
18	415.2253	0.850000	450.5	11.6	82	6.9	7.0												
19	425.7798	1.590000	805.6	19.5	82	7.0	7.0	69.7	921.6	144.0	1904.0	7.3	96.5	97.0	1282.6	79.5	1051.2	695.3	9193.6
20	430.9794	1.520000	805.6	19.5	81	7.0	7.0					10.9	137.8	81.0	1023.9				
21	444.3066	1.570000	768.5	18.0	81	7.0	7.0												
22	441.7816	1.060000	492.9	11.7	81	7.0	7.0												
23		0.520000	116.6	3.1	80	7.0	7.0												
24																			
25	408.8475	1.160000	519.4	13.0	81	7.0	7.0												
26	413.3067	1.560000	779.1	19.5	81	7.0	7.1	63.6	825.1	98.7	1280.4	13.4	173.8	97.0	1258.4	79.0	1024.9	681.8	8845.0
27	423.8540	1.550000	795.0	19.5	81	7.0	7.0					10.2	131.5	95.0	1224.5				
28	422.6702	1.560000	747.3	18.3	81	7.0	7.0												
TOT	8431.4758	34.430000	16721.5	410.3					3539.2		6869.1		1005.3		9554.2		4377.3		37958.3
AVG	421.5738	1.275185	619.3	15.2	82			66.6	884.8	128.9	1717.3	9.8	125.7	92.3	1194.3	82.3	1094.3	714.0	9489.6

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
3/1/2013	3/31/2013

DMR Mailing ZIP CODE: 96799

MAJOR

DISCHARGE 001/MONTHLY

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	81	81		0		
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	603.6	723.8		0		
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	7.0		7.2		0		
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM		8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	1320.7	1744.4		*****	*****	*****	*****	0		
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	961.2	1173.6		*****	*****	*****	*****	0		
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	899.1	1135.1		*****	78.2	89.8		0		
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	111.4	142.8		*****	*****	*****	*****	0		
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
Joe. Carney Engineering & Maint TYPED OR PRINTED		84-644-423		24-12-13
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code NUMBER MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
3/1/2013	3/31/2013

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease 03582 1 0 Effluent Gross	SAMPLE MEASUREMENT	831.8	1088.3		*****	*****	*****	*****			
	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant 50050 1 0 Effluent Gross	SAMPLE MEASUREMENT	.173333	1.570000		*****	*****	*****	*****			
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	MGD	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
Joe. Carney Engineering & Maint TYPED OR PRINTED		684-644-4232		4-12-13
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code NUMBER MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Wastewater Summary Report for the month of March 2013

Date	Production TONS	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total mg/l
1	395.5950	1.020000	620.1	16.4	81	7.0	7.0												
2	377.8613	1.360000	641.3	16.6	81	7.0	7.0												
3		0.820000	243.8	6.9	80	7.0	7.0												
4	417.5946	1.040000	477.0	12.0	81	7.0	7.0												
5	431.0255	1.540000	747.3	18.3	81	7.0	7.0	73.8	945.1	112.7	1443.3	10.5	134.5	89.0	1139.8	75.5	966.9	674.8	8641.9
6	441.8598	1.480000	810.9	19.9	81	7.0	7.0					11.6	142.8	76.0	935.4				
7	432.7238	1.570000	567.1	13.1	80	7.0	7.0												
8	444.5995	1.230000	482.3	11.6	80	7.0	7.0												
9	441.2528	1.340000	545.9	12.7	80	7.0	7.0												
10		0.830000	227.9	6.6	80	7.0	7.2												
11	426.3734	1.220000	471.7	11.0	80	7.0	7.0												
12	430.5885	1.520000	810.9	19.7	81	7.0	7.0	86.1	1088.3	101.3	1280.5	9.8	123.9	86.0	1087.1	89.8	1135.1	723.8	9149.1
13	418.9246	1.300000	662.5	17.1	81	7.0	7.0					11.0	118.9	86.0	929.7				
14	406.9390	1.300000	593.6	13.5	80	7.0	7.0												
15	425.4747	1.360000	498.2	11.8	80	7.0	7.0												
16	416.0807	1.160000	482.3	11.4	81	7.0	7.0												
17		0.480000	127.2	3.1	81	7.0	7.0												
18	408.5748	0.670000	588.3	12.7	81	7.0	7.0												
19	402.2456	1.420000	742.0	17.8	80	7.0	7.0												
20	436.3862	1.480000	577.7	13.4	80	7.0	7.0												
21	417.2804	1.470000	789.7	19.3	81	7.0	7.0	64.7	790.9	142.7	1744.4	9.2	112.5	96.0	1173.6	79.0	965.7	527.3	6446.0
22	398.5218	1.530000	726.1	17.9	81	7.0	7.0					7.8	99.2	78.0	992.4				
23	397.7015	1.210000	567.1	13.7	80	7.0	7.0												
24		0.720000	254.4	8.0	80	7.0	7.0												
25	414.7094	1.160000	683.7	15.9	80	7.0	7.0												
26	392.9535	0.930000	614.8	14.7	81	6.9	7.2	65.0	502.7	105.3	814.4	8.6	66.5	59.0	456.3	68.3	528.2	488.5	3778.0
27	417.4487	1.430000	795.0	18.9	80	7.0	7.0					7.8	92.8	82.0	975.1				
28	409.1554	1.260000	636.0	15.7	80	7.0	7.0												
29		0.890000	148.4	4.9	80	7.0	7.0												
30																			
31		0.460000	227.9	5.9	80	7.0	7.0												
TOT	10001.8705	35.200000	16361.1	400.5					3327.1		5282.6		891.0		7689.4		3596.0		28015.0
AVG	416.7446	1.173333	545.4	13.4	81			72.4	831.8	115.5	1320.7	9.5	111.4	81.5	961.2	78.2	899.0	603.6	7003.8



StarKist Samoa, Co.

P.O. Box 308  
Pago Pago, Tutuila Island  
American Samoa 96799

Telephone: 684-644-1231  
Facsimile: 684-644-1658

**October 13 , 2012**

**Mr. Alan Ota**

US EPA Region 9-OPINAP (E-4) WTR-2  
75 Hawthorne Street  
San Francisco, CA 94105

**Dr. Toafa Vaiaga'e, Director**

Office of the Governor, AS EPA  
EOB Utulei, American Samoa 96799

Gentlemen:

**RE: OD 93-01 SECTION 6.2**

**Reports and Correspondence**

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Pursuant to the above referenced Ocean Dumping permit, the final quarterly report for OD 93-01 is enclosed.


Section 6.2.1 and Section 6.2.3

All reports and related correspondence required by General Condition 1.10, Special Conditions 3.2, 3.3, 4.3, 4.5, 4.7, 5.2, 5.3, 5.4, 6.1, and all other materials, including applications shall be submitted to **(EPA Region IX) (American Samoa Environmental Protection Agency)**.

Please find attached the final Ocean Monitoring report for Starkist Ocean dumping permit OD 93-01.

There was no waste disposal at the dumping site. The last disposal was in June 2012.

Starkist has a new treatment process for the waste stream and will no longer be using the ocean dump site or the disposal vessel.

  
Joe Carney.  
Manager, Engeneering and Maintenance

cc: Brett Butler, SKS General Manager  
Michael Wolfram, OPINAP Program Director  
File

**StarKist Samoa CO**  
**Ocean Dump Site Monitoring Reports**

July 10, 2012		TSS mg/l SKS	TVSS mg/l SKS	TP mg/l SKS	TN mg/l SKS	O&G mg/l SKS	Ammonia mg/l SKS
	Depth (m)						
Station 1	control-1	4.5	2.5	0.020	0.25	0.34	0.041
	control-3	4.5	3.0	0.015	0.25	0.22	0.032
	control-10	4.5	3.0	0.015	0.30	0.47	0.041
	1	6.0	1.5	0.000	0.15	0.24	0.031
	3	4.5	3.0	0.005	0.30	0.56	0.041
	10	5.0	4.0	0.020	0.35	0.35	0.037
Station 2	1	5.0	3.5	0.015	0.40	0.35	0.036
	3	4.0	3.5	0.010	0.25	0.34	0.046
	10	4.5	3.5	0.010	0.30	0.34	0.027
Station 3	1	5.0	2.0	0.005	0.30	0.47	0.041
	3	4.0	2.5	0.025	0.35	0.34	0.028
	10	5.0	2.0	0.010	0.20	0.45	0.043
Station 4	1	4.0	1.5	0.020	0.35	0.34	0.042
	3	5.0	3.5	0.025	0.20	0.34	0.043
	10	4.5	1.5	0.015	0.35	0.34	0.032
Station 5	1	4.5	2.0	0.010	0.25	0.11	0.026
	3	6.0	2.5	0.010	0.25	0.22	0.035
	10	7.5	2.5	0.015	0.30	0.57	0.027



Oct 08, 2012

Mr. Michael Wolfram  
U. S. EPA Region 9  
Pacific Insular Area Program (CMD-5)  
75 Hawthorne Street  
San Francisco, CA 94105

Dr. Toafa Vaiaga'e  
Director, AS EPA  
Office of the Governor  
EOB Utulei, American Samoa 96799

Gentlemen :

Re : **Discharge Monitoring Report for the Months of July, August and September of 2012,  
under NPDES No . AS0000019 as issued to Star Kist Samoa, INC.**

Attached is the Star Kist Samoa's Discharge Monitoring Reports covering the months of  
July, August and September of 2012.

Star Kist Samoa met all Effluent limits.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Carney", written over a horizontal line.

Joe Carney  
Manager , Engineering and Maintenance

Wa \ ls : \ npdes \samoa

Attachments :

cc :

Mr. Alan Ota  
Mr. Brett Butler



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Form Approved  
OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

DISCHARGE MONITORING REPORT (DMR)

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
7/1/2012	7/31/2012

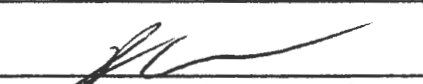
DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799  
ATTN: MR. JOE CARNEY

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	82	82		0		
10011 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
30D, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	257.7	279.2		0		
10310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	*****	7.0	7.1		0		
10400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	6.5 MINIMUM	8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	2498.0	2817.1		*****	*****	*****	*****	0		
10530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	958.4	1102.7		*****	*****	*****	*****	0		
10600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	592.4	695.4		*****	55.7	62.4		0		
10610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	91.4	126.1		*****	*****	*****	*****	0		
10665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Joe Carney Engineering & Maint			684-644-4232	10-13-12
TYPED OR PRINTED			AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368

PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI

PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

# DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
7/1/2012	7/31/2012

DMR Mailing ZIP CODE:

96799

MAJOR

DISCHARGE 001/MONTHLY

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease	SAMPLE MEASUREMENT	984.7	1082.0		*****	*****	*****	*****	0		
13582 1 0 Effluent Gross	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	1.339231	1.700000		*****	*****	*****	*****	0		
10050 1 0 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
Joe. Carney Engineering & Maint		684-644-4232		10-13-12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code NUMBER MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**Wastewater Summary Report for the month of July 2012**

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1		0.100000	31.8	0.8	80	7.0	7.0												
2	392.8817	1.340000	710.2	16.8	80	7.0	7.0												
3	423.4238	1.240000	667.8	16.8	80	7.0	7.0	99.3	1024.0	272.7	2812.0	5.7	58.8	75.0	773.4	52.9	545.5	279.2	2879.1
4	438.7304	1.500000	779.1	20.0	80	7.0	7.0					7.2	89.8	82.0	1022.9				
5	388.0876	1.690000	535.3	14.2	80	7.0	7.0												
6	421.5050	1.510000	436.6	10.9	80	7.0	7.0												
7	408.3661	1.280000	413.4	10.0	80	7.0	7.0												
8		0.900000	286.2	7.3	82	7.0	7.0												
9	386.9174	1.380000	636.0	15.9	80	7.0	7.1												
10	432.6830	1.340000	726.1	18.6	80	7.0	7.0	97.1	1082.0	216.0	2407.0	6.8	75.8	76.0	846.9	62.4	695.4	239.7	2671.1
11	427.5987	1.370000	588.3	13.3	80	7.0	7.0					6.6	75.2	83.0	945.6				
12	414.4326	1.560000	519.4	12.7	80	7.0	7.0												
13	419.1640	1.250000	408.1	8.5	80	7.0	7.0												
14																			
15																			
16	405.2445	1.360000	482.3	11.0	80	7.0	7.0												
17	420.9512	1.330000	747.3	19.3	80	7.0	7.0	79.9	883.7	254.7	2817.1	11.4	126.1	86.0	951.2	60.8	672.5	273.1	3020.6
18	428.3702	1.700000	795.0	17.9	80	7.0	7.0					6.9	97.5	78.0	1102.7				
19	407.7828	1.620000	503.5	12.1	80	7.0	7.0												
20	403.9168	1.460000	572.4	13.8	80	7.0	7.1												
21																			
22																			
23	363.2459	1.050000	153.7	4.4	80	7.0	7.0												
24	342.1337	1.180000	731.4	18.2	80	7.0	7.1	96.7	948.9	199.3	1955.7	10.3	101.1	99.0	971.5	46.5	456.3	238.9	2344.3
25	363.0318	1.490000	842.7	19.7	80	7.0	7.1					8.6	106.6	85.0	1053.2				
26	423.8483	1.490000	498.2	11.4	80	7.1	7.1												
27	423.2038	1.620000	689.0	16.6	80	7.0	7.1												
28	395.3021	1.500000	392.2	9.9	80	7.0	7.1												
29																			
30	401.8434	1.090000	408.1	9.3	80	7.0	7.1												
31	419.8793	1.470000	784.4	19.0	80	7.0	7.1												
TOT	9752.5441	34.820000	14338.5	348.4					3938.6		9991.8		730.8		7667.4		2369.6		10915.0
AVG	406.3560	1.339231	551.5	13.4	82			93.3	984.7	235.7	2498.0	7.9	91.4	83.0	958.4	55.7	592.4	257.7	2728.8

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

AS0000019  
PERMIT NUMBER

001-A  
DISCHARGE NUMBER


MONITORING PERIOD  
MM/DD/YYYY  
8/1/2012  
MM/DD/YYYY  
8/31/2012

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	80	80		0		
10011 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
30D, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	361.2	454.7		0		
10310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
PH	SAMPLE MEASUREMENT	*****	*****	*****	7.0		7.1		0		
10400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM		8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	3550.8	7485.5		*****	*****	*****	*****	0		
10530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	1197.0	1907.3		*****	*****	*****	*****	0		
10600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	865.2	1273.5		*****	74.2	91.7		0		
10610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	148.9	259.7		*****	*****	*****	*****	0		
10665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Joe Carney Engineering & Maint			684-644-4232	10-13-12
TYPED OR PRINTED			AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
 ADDRESS: P O BOX 368  
 PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY  
 LOCATION: ATU'U, MAOPUTASI  
 PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

# DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004


AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
8/1/2012	8/31/2012

DMR Mailing ZIP CODE: 96799  
 MAJOR

DISCHARGE 001/MONTHLY  
 External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease	SAMPLE MEASUREMENT	1007.4	1198.5		*****	*****	*****	*****	0		
13582 1 0 Effluent Gross	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	1.455000	1.740000		*****	*****	*****	*****	0		
10050 1 0 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe. Carney Engineering & Maint			84-644-4232	10-13-12	
TYPED OR PRINTED				AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**Wastewater Summary Report for the month of August 2012**

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1	452.2158	1.220000	24732.1	17.8	80	7.0	7.1	95.6	969.9	269.3	2732.2	9.8	99.4	94.0	953.7	66.7	676.7	374.3	3797.5
2	463.8433	1.590000	593.6	13.5	80	7.0	7.0					7.8	103.1	79.0	1044.6				
3	469.7151	1.670000	519.4	12.3	80	7.0	7.0												
4	412.6168	1.490000	397.5	10.4	80	7.0	7.1												
5																			
6	436.5309	1.320000	461.1	11.0	80	7.0	7.0												
7	427.9103	1.300000	891.4	20.7	80	7.0	7.1	85.9	928.6	205.3	2219.5	8.9	96.2	84.0	908.1	69.8	754.6	356.3	3851.9
8	451.3871	1.680000	630.7	15.1	80	7.0	7.1					7.5	104.8	79.0	1103.7				
9	422.1110	1.740000	630.7	15.7	80	7.0	7.0												
10	429.9909	1.330000	360.4	8.5	80	7.0	7.0												
11																			
12																			
13	406.7096	0.860000	376.3	8.9	80	7.0	7.1												
14	438.7413	1.180000	429.3	10.2	80	7.0	7.1	91.8	900.8	206.0	2021.5	9.1	89.3	95.0	932.2	72.4	710.5	391.3	3839.8
15	431.6429	1.640000	805.6	21.0	80	7.0	7.1					8.0	109.1	82.0	1118.3				
16	433.9068	1.630000	673.1	16.5	80	7.1	7.1												
17	440.9975	1.520000	429.3	10.4	80	7.0	7.1												
18	415.7049	1.010000	3841.6	9.6	80	7.0	7.1												
19																			
20	416.7645	1.200000	625.4	16.2	80	7.0	7.1												
21	402.6349	1.560000	842.7	20.3	80	7.0	7.0	80.1	1039.1	254.0	3295.1	13.3	172.5	93.0	1206.5	70.2	910.7	229.4	2976.0
22	427.5687	1.740000	757.9	20.2	80	7.0	7.1					15.2	219.9	79.0	1143.1				
23	413.3802	1.690000	673.1	19.0	80	7.0	7.1												
24	415.8138	1.610000	508.8	12.5	80	7.0	7.0												
25		0.540000	227.9	4.9	80	7.0	7.0												
26																			
27	403.9613	1.030000	651.9	14.7	80	7.0	7.0												
28	403.1611	1.670000	795.0	18.3	80	7.0	7.0	86.3	1198.5	539.0	7485.5	18.7	259.7	119.0	1652.6	91.7	1273.5	454.7	6314.7
29	429.9492	1.650000	773.8	20.3	80	7.0	7.0					17.1	234.6	139.0	1907.3				
30	446.5917	1.590000	805.6	18.6	80	7.0	7.0												
31	446.5450	1.660000	795.0	20.3	80	7.0	7.0												
TOT	10740.3946	37.120000	43229.2	386.9					5037.0		17753.7		1488.8		11970.1		4326.0		20779.9
AVG	429.6158	1.455000	2111.0	14.4	80			87.9	1007.4	294.7	3550.8	11.5	148.9	94.3	1197.0	74.2	865.2	361.2	4156.0

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC

DISCHARGE MONITORING REPORT (DMR)

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

AS0000019  
PERMIT NUMBER

001-A  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 96799  
MAJOR

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

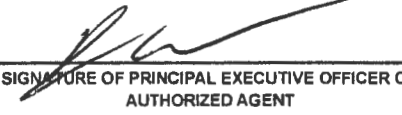
MONITORING PERIOD  
MM/DD/YYYY MM/DD/YYYY  
9/1/2012 9/30/2012

DISCHARGE 001/MONTHLY  
External Outfall

ATTN: MR. JOE CARNEY

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	81	82		0		
10111 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
30D, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	595.8	666.7		0		
10310 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
PH	SAMPLE MEASUREMENT	*****	*****	*****	7.0		7.1		0		
10400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM		8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	3254.4	5598.1		*****	*****	*****	*****	0		
10530 1 0 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	1162.1	1383.8		*****	*****	*****	*****	0		
10600 1 0 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	1118.4	1151.5		*****	82.6	91.7		0		
10610 1 0 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	183.0	247.3		*****	*****	*****	*****	0		
10665 1 0 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  Joe. Carney Engineering & Maint  TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 	TELEPHONE		DATE
			684-644-4232		10-15-12
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC

DISCHARGE MONITORING REPORT (DMR)

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

AS0000019  
PERMIT NUMBER

001-A  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 96799  
MAJOR

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799


MONITORING PERIOD  
MM/DD/YYYY  
9/1/2012  
MM/DD/YYYY  
9/30/2012

DISCHARGE 001/MONTHLY  
External Outfall

ATTN: MR. JOE CARNEY

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease	SAMPLE MEASUREMENT	999.0	1154.0		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Effluent Gross flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	1.320385	1.680000		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	<small>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</small>	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Joe Carney Engineering & Main			684-644-4232	10-13-12
TYPED OR PRINTED			AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



**Wastewater Summary Report for the month of September 2012**

Date	Production TONS	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total mg/l
1	420.5035	1.490000	699.6	16.9	80	7.0	7.0												
2																			
3																			
4	439.2742	1.480000	773.8	18.5	80	7.0	7.0												
5	439.3092	1.680000	816.2	19.5	80	7.0	7.1	82.6	1154.0	400.7	5598.1	17.7	247.3	95.0	1327.2	79.5	1110.7	515.8	7206.2
6	435.0748	1.600000	704.9	17.6	80	7.0	7.1					16.3	216.9	104.0	1383.8				
7	443.3911	1.670000	784.4	18.8	80	7.0	7.1												
8	420.4191	1.280000	736.7	16.9	80	7.0	7.0												
9		0.220000	111.3	2.5	82	7.0	7.0												
10	432.2303	1.180000	418.7	10.0	82	7.0	7.0												
11	437.2199	1.420000	784.4	18.8	80	7.0	7.0	91.4	1079.3	266.7	3149.4	19.1	225.5	100.0	1180.9	90.0	1062.8	571.0	6742.8
12	433.0196	1.520000	731.4	17.6	80	7.0	7.0					18.3	231.3	107.0	1352.5				
13	446.4034	1.610000	752.6	20.2	80	7.0	7.0												
14	427.0357	1.240000	408.1	9.3	80	7.0	7.0												
15																			
16																			
17	445.0064	1.210000	556.5	13.3	80	7.0	7.0												
18	439.7419	1.550000	821.5	20.2	80	7.0	7.1												
19	443.0418	1.510000	837.4	20.2	80	7.0	7.0	72.2	906.6	176.7	2218.9	15.1	189.6	99.0	1243.2	91.7	1151.5	666.7	8371.9
20	443.3707	1.480000	848.0	19.9	80	7.0	7.0					11.9	146.5	87.0	1070.8				
21	447.8844	1.540000	752.6	17.5	82	7.0	7.0												
22	443.5671	1.190000	572.4	14.0	82	7.0	7.0												
23		0.540000	174.9	4.2	80	7.0	7.0												
24	419.1704	1.030000	503.5	11.6	80	7.0	7.1												
25	441.6751	1.440000	810.9	20.3	80	7.0	7.1	71.5	856.2	171.3	2051.3	9.1	109.0	81.0	970.0	69.2	828.7	629.6	7539.5
26	442.9824	1.400000	625.4	15.2	80	7.0	7.1					8.4	97.8	66.0	768.4				
27	419.3863	1.580000	816.2	19.6	80	7.0	7.1												
28	427.7969	1.560000	588.3	13.5	80	7.0	7.1												
29	428.7136	1.310000	524.7	13.4	80	7.0	7.1												
30		0.600000	360.4	8.7	80	7.0	7.1												
TOT	10016.2178	34.330000	16514.8	398.2					3996.2		13017.7		1463.9		9296.7		4153.6		29860.3
AVG	435.4921	1.320385	635.2	15.3	81			83.4	999.0	253.9	3254.4	17.9	183.0	116.8	1162.1	82.6	1038.4	595.8	7465.1

# Ocean Disposal Site Monitoring Report (OD Permit 93-01 & 93-02)

10 July, 2012

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Ian Price
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
12 July, 2012

## Introduction

On July 10, 2012 the wastewater tanker *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a cargo tank cleaning voyage, there was none of the usual tuna cannery generated hi-strength liquid wastewater on board. Tank cleaning rinse waters were discharged over a three hour cleaning operation then Ocean Monitoring/Sampling activities were conducted as normal. This sampling and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0535:** The *Blue Moon* departed Pago Pago Harbor bound for the dumpsite location with Master/Principal Investigator, Chief and two deckhands on board.
- 0637:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0646:** The *Blue Moon* arrived at the dump-zone center, where observed steady southeasterly winds and moderate southeasterly seas indicated cleaning operations be conducted in the southeast dump-zone quadrant.
- 0655:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or southeast (SE) of the dumpzone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were moderate with SE swells to 2.0 meters and a steady SE wind of 15+ knots and the barometer reading 29.63. Current set and drift, of the ship, were to the northwest at 0.9 knots. No floating materials or sea life were observed here.
- 0710:** The *Blue Moon* began tank cleaning operations in the SE disposal zone quadrant and continued discharging rinse water with a northeast to southwest reciprocal, elliptical type pattern approximately 2 miles long (see Plot 1). The tank flushing/cleaning was concluded at 11:40 hrs.
- 1150:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE winds had increased to 18 knots during the flushing along with barometric pressure to 29.64. Skies remained partly cloudy to cloudy. Visual evidence of the wash water was not very apparent. A few small streaks of very light glassy surface sheen over clear, blue water. The current/wind drift of the ship was

again GPS determined to be northwesterly at 0.9 knots. No sea life or floatable/suspended particulates or other materials were observed.

**1205:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position also had remnants of the *Blue Moon's* wash-water discharge track lines visible as patches and streaks of very light surface sheen over clear natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined to be northwesterly (NW) at 0.9 knots between stations 2 & 3 (See Plot #1). Again, no sea-life or floatable materials were noted at this position.

**1220:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed no visual evidence of the discharged wash-water only natural appearing, clear blue water. The drift rate of the ship between Stations #3 & 4 was 0.8 knots to the northwest.

**1230:**     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 miles NW of Station #3, showed increasingly lighter sheen characteristics than the previous sample stations, being barely visible to even the trained eye. There were no floating or suspended materials observed. The NW current/drift rate of the ship was noted here to be 1.0 knots which had carried the last visible remnants of the wash plume about an additional 0.25 of a mile further down-current to the NW.

**1240:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the tank cleaning water and approximately 0.28 NM south of the zone center (see Plot #1). The leading edge of the wash water plume was again, just barely visible at this location as some occasional patches and streaks of very light glassy surface sheen with clear, natural appearing blue waters underneath and further down-current to the NW and no floating/suspended materials. No notable sea life was observed at this position or any of the previous stations other than a few random seabirds and flying fish. The final barometer reading was 29.64 when monitoring activities were concluded at 12:50 hrs. The *Blue Moon* exited the disposal zone at 13:01 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 13:55 hours.

Prepared by M. Crook  
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> 10 July, 2012	<b>Sea Conditions:</b> Moderate w/Southeast swells to 2.0 meters. <b>Wind:</b> Southeast @ 15 - 18 knots <b>Visibility:</b> Good, 6 – 10+ NM					
	<b>Barometer:</b> 29.62 ^ 29.64 <b>Current Set &amp; Drift Rate:</b> Northwest @ average 0.9 knots <b>Sky:</b> Partly cloudy to cloudy, 25 - 90%					
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color
0655	Control	1	27.1	8.4	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.
		3	27.1	8.4		
		10	27.1	8.4		
1150	Station 1	1	28.0	8.5	None	Broken streaks and patches of previous vessel track lines of very light surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.
		3	27.9	8.5		
		10	27.8	8.5		
1205	Station 2	1	27.4	8.5	Slightly Pungent	Broken and scattered very light surface sheen over deep, clear blue. No particulates or floating scum.
		3	27.3	8.5		
		10	27.2	8.5		
1220	Station 3	1	27.7	8.5	None	Same as Control Station (See above).
		3	27.6	8.5		
		10	27.4	8.5		
1230	Station 4	1	27.6	8.5	None	Same as Station #1.
		3	27.6	8.5		
		10	27.6	8.5		
1240	Station 5	1	27.6	8.4	None	Leading edge of flush water and 0.28 NM south of the disposal zone center. Location showed just a few faint streaks of surface sheen over deep, clear, natural appearing blue water. No suspended or floating particulate material or sea life noted.
		3	27.5	8.5		
		10	27.5	8.5		

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.62'	South	170° 37.34'	West
Station 1	14° 25.07'	South	170° 37.36'	West
Station 2	14° 24.88'	South	170° 37.54'	West
Station 3	14° 24.73'	South	170° 37.76'	West
Station 4	14° 24.56'	South	170° 37.96'	West
Station 5	14° 24.38'	South	170° 38.23'	West

*Route*  
*ced of form 5-7-12*  
*Ota*

January 30<sup>th</sup> 2012

Michael Wolfram  
Program Manager  
Pacific Islands Office  
USEPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

**RE: OCEAN DUMPING PERMIT OD93-02 SPECIAL**

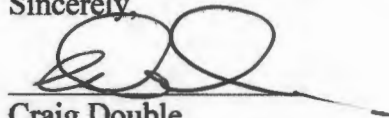
Dear Michael:

Pursuant to the requirements of the above referenced permit, we are herewith submitting the Quarterly ocean dumping report for the period of October 2011 through December 2011 for Samoa Tuna Processors Inc. No waste has been generated or transferred or dumped in this quarter. Enclosed are the following:

- \* EPA Forms 1, 2 and 3.
- \* Results of Monthly Onshore Storage Tank Analysis. No testing was done. N/A
- \* Letter to ASEPA reporting exceedances and irregularities during the 3 month period where applicable. There were no exceedances. N/A
- \* Monthly Site Monitoring Reports. N/A
- \* Results of Monthly Site Monitoring Analysis.

Please advise if additional information is required.

Sincerely,



Craig Double  
Facility Manager  
Samoa Tuna Processors Inc.

Enclosures:  
Pacific Island Office

Cc(1) Except Vessel Logs

Director  
American Samoa Environmental  
Protection Agency  
American Samoa Government  
Pago Pago, American Samoa 96799

Cc(1) Complete Report

Director of Engineering  
Chicken of the Sea International  
9330 Scranton Road  
Suite 500  
San Diego, California 92121

Allan Ota  
Wetlands Office  
US EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Cc(1) Vessel Logs Only

Commanding Chief  
U.S. Coast Guard Liaison Office  
P.O. Box 249  
Pago Pago, American Samoa 96799

Cc(1) Except Vessel Logs:

Project Leader  
Office of Environmental Services  
U.S. Fish and Wildlife Service  
300 Ala Moana Boulevard  
P.O. Box 50167  
Honolulu, Hawaii 96850

John Naughton  
Pacific Island Regional Office  
1601 Kapiolani BLvd.  
Suite 1110  
Honolulu, Hawaii 96814-4700

Executive Director  
Western Pacific Regional Fishery  
Management Council  
1164 Bishop Street, Suite 1405  
Honolulu, Hawaii 96813

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

10 November, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
14 November, 2011



## Introduction

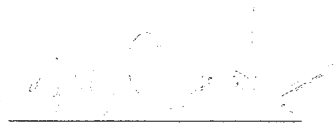
On November 10, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515: The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613: The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0623: The *Blue Moon* arrived at the dump-zone center, where observed light northeasterly winds and slight east to NE seas initially indicated disposal operations be conducted in the northeastern dump-zone quadrant.
- 0635: Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or northeast (NE) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with station's position were recorded (Table 1). Seas at this time were slight with east & NE swells to 1.0 meters and a NE breeze of 10 knots with the barometer reading 29.53. Current set and drift, of the ship, were to the southwest at 0.6 knots. No floating materials or sea life were observed here.
- 0648: The *Blue Moon* began disposal operations in the NE dump zone quadrant and continued discharging cargo (high-strength waste water) with a northwest (NW) to SE reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 10:15 hrs.
- 1025: Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The NE winds had stayed constant at 10 knots with still overcast skies. The waste plume appeared here as an oblong body of light/moderate glassy surface sheen extending in a northwest (NW) to SE direction and moving slowly to the southwest (SW). The current/wind drift of the ship was GPS determined to be, as at Control Station, southwesterly @ 0.6 knots. No sea life or

floatable materials were observed.

- 1035:     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some very light, glassy surface sheen but no floating or suspended particulate material. The average drift rate of the ship with current and wind was GPS determined to be southwesterly at 0.7 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1045:     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed some streaks of moderate glassy surface sheen over clear blue water. The drift rate of the ship between Stations #3 & 4 was again, 0.7 knots to the SW.
- 1055:     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM SW of Station #3, showed a long, unbroken vessel track-line of typical heavy glassy surface sheen characteristic of the high strength wastewater extending in a NW to SE direction over 2 NM long and was within 0.25 NM from the visible leading edge of the plume. There were no floating or suspended materials. The SW current/drift rate of the ship was again noted here to be at 0.7 knots.
- 1105:     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and just slightly NE of the zone center (See Plot #1). The leading edge of the waste plume was not clearly visible at this location and consisted of just a few scattered streaks of very light glassy surface sheen with clear, natural appearing blue waters further down-current to the southwest. The final drift rate of the ship was noted to be 0.6 knots and the waste plume appeared to be nearly stationary. Other than a few random seabirds flying by, no notable sea life was observed at this position or any of the other sampling stations. The final barometer reading was 29.54 when monitoring activities were concluded at 11:19 hrs. The *Blue Moon* exited the disposal zone at 11:31 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 12:20 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

<b>Date:</b> November 10, 2011	<b>Sea Conditions:</b> Slight w/ East & NE swells to 1.0 meters.				<b>Wind:</b> Northeast @ 10 knots steady.	<b>Visibility:</b> Good 8-10 NM
	<b>Barometer:</b> 29.53 ^ 29.54		<b>Current Set &amp; Drift Rate:</b> Southwest @ average 0.6 knots		<b>Sky:</b> Cloudy 100%	
<b>Time</b>	<b>Station</b>	<b>Depth (meters)</b>	<b>Temp. (°C)</b>	<b>pH</b>	<b>Odor</b>	<b>Color</b>
0635	Control	1	27.2	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.
		3	27.2	8.2		
		10	26.7	8.2		
1025	Station 1	1	28.3	8.2	None	Scattered patches of moderate surface sheen over deep, blue & clear water. No floating or suspended materials
		3	27.8	8.2		
		10	27.8	8.2		
1035	Station 2	1	27.8	8.2	Slightly Pungent	A few broken patches and streaks of light surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.
		3	27.8	8.2		
		10	27.8	8.2		
1045	Station 3	1	28.3	8.2	Slightly Pungent	Same as Station #1.
		3	28.0	8.2		
		10	28.0	8.2		
1055	Station 4	1	28.3	8.1	Slightly Pungent	Long northwest to southeast extending track line of moderate to heavy surface sheen over clear blue water.
		3	28.3	8.1		
		10	28.3	8.1		
1105	Station 5	1	28.3	8.2	None	Leading Edge of the waste plume. Indistinct boundary of plume and clear, natural blue seas further down-current to the southwest. Just a few scattered streaks of very light surface sheen. No particulate materials.
		3	28.3	8.2		
		10	28.3	8.2		

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 23.51'	South	170° 37.24'	West
Station 1	14° 24.40'	South	170° 37.05'	West
Station 2	14° 23.49'	South	170° 37.36'	West
Station 3	14° 23.65'	South	170° 37.58'	West
Station 4	14° 23.75'	South	170° 37.85'	West
Station 5	14° 23.96'	South	170° 38.12'	West

170 42.93 W

170 39.30 W

170 36.51 W

22.14 S

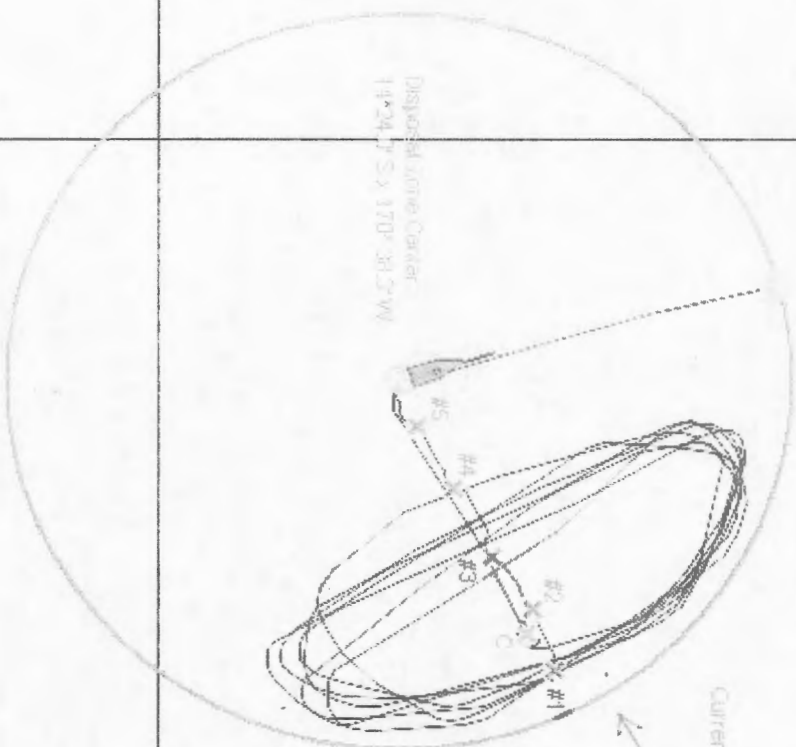
24.90 S

PLOT #1

Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
10 November, 2011

*M. Cook*

M. Cook, Investigator



# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

08 December, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 December, 2011


## Introduction

On December 08, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0606:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.7' W.
- 0615:** The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0625:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with east/SE swells to 1.5 meters and east winds at 12 knots (kts.) with the barometer reading 29.59. Current set and drift, of the ship, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0637:** The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.4 miles long (see Plot 1) until 0922 hrs.
- 0935:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 15 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west a short distance, (approximately 0.25 miles) away. The current/wind drift of the ship was GPS determined to be westerly @ 1.3 knots. No sea life or floating materials were observed.

- 0945:** Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed only a few scattered patches of light surface sheen over clear, natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.2 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 0955:** Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position had the same color qualities as Station # 1, that is, no visible sign of the waste plume. Sea & wind conditions remained the same as with the previous sample stations and the drift rate of the ship between Stations #3 & 4 was 1.2 knots, again, to the west.
- 1005:** Station Four monitoring. This area showed more of the same broken streaks and patches of very light surface sheen over clear blue subsurface water present at Station #2. The westerly current/drift rate of the ship was again noted here to be at 1.2 knots. No floating scum or suspended particulate materials were observed at any of these sample stations.
- 1015:** Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.08 NM SW of the zone center (see Plot #1). The leading edge of the waste plume was not clearly visible at this location as there was only an occasional small patch or streak of very light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Again, no floating or suspended scum or particulates were noted at any of the five sampling stations. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.60 when monitoring activities were concluded at 1023 hrs. The *Blue Moon* exited the disposal zone at 1034 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 11:25.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> December 08 2011	<b>Sea Conditions:</b> Slight with East/Southeast swells to 1.5 meters.					<b>Wind:</b> East @ 10 - 15 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.58 ↑ 29.60		<b>Current Set &amp; Drift Rate:</b> West @ average 1.2 knots			<b>Sky:</b> Partly cloudy w/ some passing rain	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0625	Control	1	27.8	8.0	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.1			
		10	27.2	8.0			
0935	Station 1	1	28.3	8.3	None	Same color qualities as Control Station; clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current	
		3	27.8	7.9			
		10	27.8	8.1			
0945	Station 2	1	27.8	8.3	Slightly Pungent	Streaks and patches of light, glassy surface sheen from broken up, north to south running vessel discharge track lines. No sign of floating or particulate materials.	
		3	27.8	7.7			
		10	27.8	7.9			
0955	Station 3	1	28.3	8.0	none	Same color qualities as Control & Station #1	
		3	28.0	8.1			
		10	28.0	8.2			
1005	Station 4	1	28.3	8.2	Slightly Pungent	A few scattered streaks & patches of very light, glassy surface sheen over deep, clear blue. No floating or suspended particulate or other material.	
		3	28.3	8.1			
		10	28.0	7.5			
1015	Station 5	1	28.3	8.3	Slightly Pungent	Leading edge of the waste plume: Same color & sheen observations as at Station #4 and located very close to the disposal zone center.	
		3	28.0	8.2			
		10	28.0	7.8			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.09'	South	170° 37.17'	West
Station 1	14° 24.10'	South	170° 36.94'	West
Station 2	14° 24.13'	South	170° 37.30'	West
Station 3	14° 24.14'	South	170° 37.52'	West
Station 4	14° 24.12'	South	170° 37.85'	West
Station 5	14° 24.08'	South	170° 38.30'	West





170 39.00 W

170 36.00 W

170 34.00 W

PLOT #1

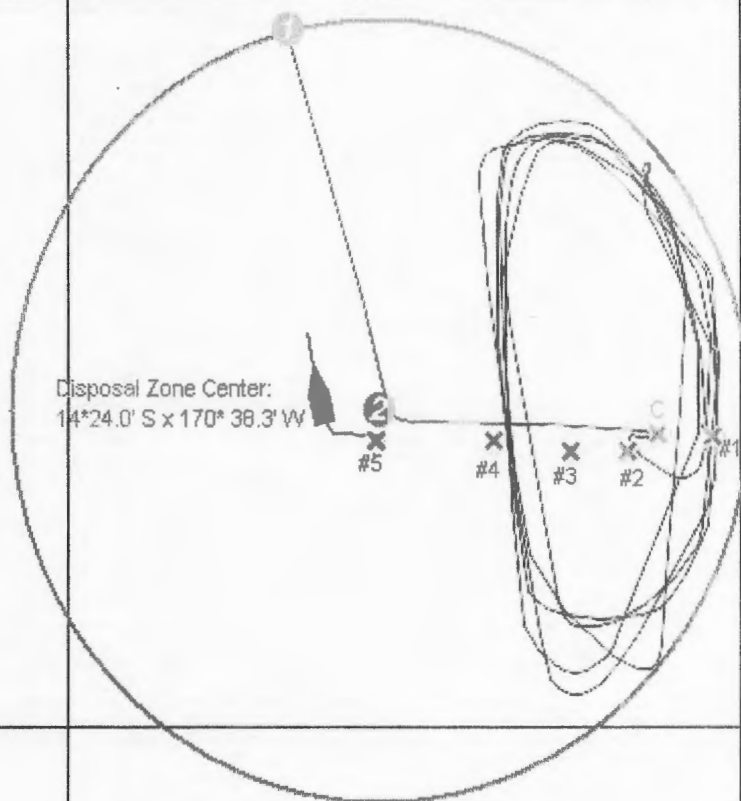
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
08 December, 2011

*M. Crook*

M. Crook, Investigator

14 22.40 S

Disposal Zone Center:  
14°24.0' S x 170°38.3' W



Current Set: West

14 25.20 S

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

07 October, 2011

Monitoring Vessel:

F/V Blue Moon

Discharge Vessel:

F/V Blue Moon

Chief Investigator:

Mike Crook

Starkist Samoa Liaison:

Joe Carney

STP/Tri Marine Liaison:

Craig Double

Determination of Sampling Positions:

All positions obtained by GPS  
Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 October, 2011

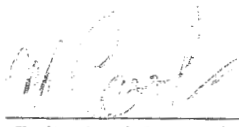
## Introduction

On October 07, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0520: The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613: The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.8' W.
- 0624: The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east to southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0620: Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NMI) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with East & SE swells to 1.5 meters and east winds at 7 knots (kts.) with the barometer reading 29.61. Current set and drift of the ship, by GPS, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0645: The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 09:36 hrs.
- 0945: Station One Monitoring (See Plot #1). Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 10 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west some distance, (about 0.2 miles) away. The current/wind drift of the ship was GPS determined to be westerly at 0.9 knots. No floating or suspended materials were noted here.

- 0955:     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some light sheen of previous vessel track lines as the only visible indication of the waste plume. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.0 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 1005:     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed a broad area of continuous streaks and patches of moderate surface sheen along with widespread swaths of floating brown scum and large brown particulates. Also present were much finer and lighter colored, suspended particulate material in light concentration extending down to the limit of visibility (approx. 3-4 meters). Sea & wind conditions remained the same as with the previous two sample stations and the drift rate of the ship between Stations #3 & 4 was 1.1 knots, again, to the west.
- 1015:     Station Four monitoring. This position was in the same large area of moderate surface sheen as Station #3 and showed the same sparsely concentrated fine, light gray colored suspended particulate material but none of the floating scum etc. The westerly current/drift rate of the ship was again noted here to be at 1.1 knots. No sea-life was observed.
- 1030:     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.35 NM west of the zone center (See Plot #1). The leading edge of the waste plume was distinctive at this location as an unbroken line of light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Also present in this sheen were more swaths of the floating scum and large particulate material but none of the fine suspended particles. All these materials were various shades of brown. The final drift rate of the ship was noted to be 1.0 knots. Other than a few random seabirds flying, no significant sea life was observed at this position or any of the previous stations. The final barometer reading was 29.62 when monitoring activities were concluded at 1040 hrs. The *Blue Moon* exited the disposal zone at 1048 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1140 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table

Date: 07 October, 2011	Sea Conditions: Slight w/ SE & Easterly swells to 1.5 meters.				Wind: East @ 7 - 10 knots		Visibility: Unlimited	
	Barometer: 29.61 ↑ 29.63 ↓ 29.62		Current Set & Drift Rate: West @ average 1.0 knots			Sky: Partly cloudy, 25 - 50%		
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color		
0635	Control	1	26.1	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.		
		3	26.1	8.2				
		10	26.1	8.2				
0945	Station 1	1	27.5	8.2	None	Same color qualities as Control Station, clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current		
		3	27.5	8.2				
		10	27.2	8.2				
0955	Station 2	1	27.5	8.2	Slightly Pungent	Broken patches of previous vessel track lines and streaks of slight surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.		
		3	27.2	8.2				
		10	27.2	8.2				
1005	Station 3	1	27.8	8.2	Pungent	In a long north to south extending area of moderate surface sheen with many floating swaths composed of brown scum and large brownish particulates.		
		3	27.2	8.2				
		10	27.5	8.2				
1015	Station 4	1	27.8	8.2	Pungent	Part of the same broad area of moderate surface sheen as St. #3 with many floating swaths of large brown particulates and also lighter, fine suspended particles in the water column to the limit of visibility.		
		3	27.8	8.2				
		10	27.5	8.2				
1030	Station 5	1	27.2	8.2	Pungent	Leading Edge of the waste plume. Distinct boundary of light to moderate surface sheen along with the same floating and suspended particulates as described at Station #4 but not as dense. Clear & natural blue seas further down-current to the West		
		3	27.2	8.2				
		10	27.2	8.2				

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.05'	South	170° 37.18'	West
Station 1	14° 24.00'	South	170° 36.99'	West
Station 2	14° 23.95'	South	170° 37.24'	West
Station 3	14° 23.97'	South	170° 37.53'	West
Station 4	14° 23.95'	South	170° 37.89'	West
Station 5	14° 23.96'	South	170° 38.64'	West



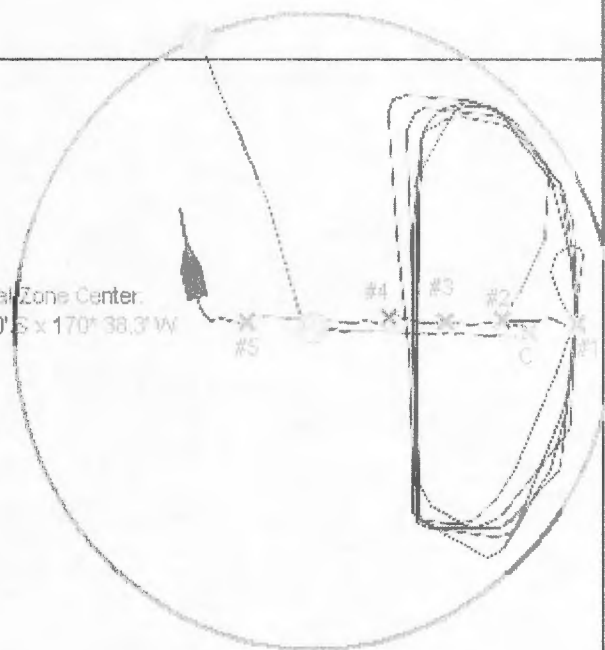
170 40.23 W

170 36.82 W

170 33.41 W

14 22.73 S

Disposal Zone Center:  
14°24.0' S x 170°38.3' W



←  
Current Set: West

PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
07 October, 2011

*M. Crook*

M. Crook, Investigator

14 26.14 S

## APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samba Packing Fish Processing Wastes Generated  
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: Decemebr 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	600,00	100,000	40,000	200,000	200,000
Dec 2011	No waste for December			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

## APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated  
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: Novemeber 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
Nov 2011	No waste for November			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month



## APPENDIX B - REPORT FORM 1

Monthly Volume of CCRS Permit Including Fish Processing Wastes Generated  
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: October 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
October 11	No waste for October			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

## APPENDIX B - REPORT FORM 2

Data Form for 3-Month Report on Waste Stream Analyses for COS Samoa Packing MPRSA 102 Permit #OD 93-02

Reporting Period: From October 2011 to December 2011

### COS Samoa Packing - Onshore Storage Monitoring Report

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-Day Biological Oxygen Demand (mg/L)	Oil and Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
October-11									
November-11									
December-11									
OD 93-02 Permit Limits	54,590	59,760	87,780	48,630	2,820	11,070	5,200	5.8 to 7.5	.97 to 1.03

NOTE: An asterisk(\*) next to the waste concentration signifies that an exceedance of the permit limit has occurred.

Cumulative Yearly Data on Fish Processing Wastes  
Generated at Samoa Tuna Processors Inc. and Disposed at the Ocean Site  
MPRSA 102 Special Permit #OD 93-02

Reporting Period: From 01 JAN. 2011 31 DEC. 2011

Month & Year	DAF Sludge Generated (gallons/month)	Cooker Water Generated (gallons/month)	Press Water Generated (gallons/month)	Total Generated (gallons/month)	Coagulate polymer (pounds/month)	Volume Ocean Disposed (gallons/month)
Jan. 2011	0	0	0	0	0	0
Feb. 2011	0	0	0	0	0	0
Mar. 2011	0	0	0	0	0	0
Apr. 2011	0	0	0	0	0	0
May. 2011	0	0	0	0	0	0
Jun. 2011	0	0	0	0	0	0
Jul. 2011	0	0	0	0	0	0
Aug. 2011	0	0	0	0	0	0
Sep. 2011	0	0	0	0	0	0
Oct. 2011	0	0	0	0	0	0
Nov. 2011	0	0	0	0	0	0
Dec. 2011	0	0	0	0	0	0
Cumulative Yearly Totals	0	0	0	0	0	0

NOTE: A separate table shall be prepared for each calendar year.

Jan 13, 2012

Mr. Alan Ota  
US EPA Region 9-OPINAP (E-4) WTR-2  
75 Hawthorne Street  
San Francisco, CA 94105

Dr. Toafa Vaiaga'e, Director  
Office of the Governor, AS EPA  
EOB Utulei, American Samoa 96799

Gentlemen:

**RE: OD 93-01 SECTION 6.2**  
**Reports and Correspondence**

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Pursuant to the above referenced Ocean Dumping permit, the final quarterly report for OD 93-01 is enclosed.

Section 6.2.1 and Section 6.2.3

All reports and related correspondence required by General Condition 1.10, Special Conditions 3.2, 3.3, 4.3, 4.5, 4.7, 5.2, 5.3, 5.4, 6.1, and all other materials, including applications shall be submitted to *(EPA Region IX) (American Samoa Environmental Protection Agency)*.

Data compiled are for the period of October 2011 to December 2011. Analytical performance concluded all parameters were met

Joe Carney.   
Manager, Engineering and Maintenance

cc: Brett Butler, SKS General Manager  
Michael Wolfram, OPINAP Program Director  
File

**APPENDIX B - REPORT FORM 2**

Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01

Reporting Period: From **October 2011** to **December 2011**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
7-Oct-11	43616	47629	64318	6015	515	5900	5200	6.68	1.01
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3	0.93 to 1.05

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
10-Nov-11	53804	43171	39427	6045	625	7000	6050	6.66	1.01
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3	0.93 to 1.05

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
8-Dec-11	70534	55400	44419	4469	600	5100	6600	6.57	1.01
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3	0.93 to 1.05

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : October 2011**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Oct-11	10000	40000	50000	100000	182500
2-Oct-11	1750	7000	8750	17500	
3-Oct-11	6500	26000	32500	65000	157500
4-Oct-11	6500	26000	32500	65000	
5-Oct-11	7500	30000	37500	75000	172500
6-Oct-11	8750	35000	43750	87500	
7-Oct-11	9750	39000	48750	97500	185000
8-Oct-11	2500	10000	12500	25000	
9-Oct-11	1750	7000	8750	17500	
10-Oct-11	7750	31000	38750	77500	197000
11-Oct-11	7250	29000	36250	72500	
12-Oct-11	9250	37000	46250	92500	172500
13-Oct-11	8000	32000	40000	80000	
14-Oct-11	9250	37000	46250	92500	185500
15-Oct-11	8750	35000	43750	87500	
16-Oct-11	250	1000	1250	2500	192500
17-Oct-11	9500	38000	47500	95000	
18-Oct-11	11500	46000	57500	115000	150000
19-Oct-11	7000	28000	35000	70000	
20-Oct-11	8000	32000	40000	80000	190000
21-Oct-11	7000	28000	35000	70000	
22-Oct-11	11250	45000	56250	112500	170000
23-Oct-11	1000	4000	5000	10000	
24-Oct-11	1500	6000	7500	15000	
25-Oct-11	7250	29000	36250	72500	147500
26-Oct-11	8500	34000	42500	85000	
27-Oct-11	9500	38000	47500	95000	185000
28-Oct-11	4250	17000	21250	42500	
29-Oct-11	9000	36000	45000	90000	182500
30-Oct-11	2500	10000	12500	25000	
31-Oct-11	6250	25000	31250	62500	165000
<b>Monthly Totals</b>	<b>209500</b>	<b>838000</b>	<b>1047500</b>	<b>2095000</b>	<b>2635000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 19180.7 Pounds/Month  
Coagulant polymer: 618.7 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : October 2011**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Oct-11	10000	40000	50000	100000	182500
2-Oct-11	1750	7000	8750	17500	
3-Oct-11	6500	26000	32500	65000	157500
4-Oct-11	6500	26000	32500	65000	
5-Oct-11	7500	30000	37500	75000	172500
6-Oct-11	8750	35000	43750	87500	
7-Oct-11	9750	39000	48750	97500	185000
8-Oct-11	2500	10000	12500	25000	
9-Oct-11	1750	7000	8750	17500	
10-Oct-11	7750	31000	38750	77500	197000
11-Oct-11	7250	29000	36250	72500	
12-Oct-11	9250	37000	46250	92500	172500
13-Oct-11	8000	32000	40000	80000	
14-Oct-11	9250	37000	46250	92500	185500
15-Oct-11	8750	35000	43750	87500	
16-Oct-11	250	1000	1250	2500	192500
17-Oct-11	9500	38000	47500	95000	
18-Oct-11	11500	46000	57500	115000	150000
19-Oct-11	7000	28000	35000	70000	
20-Oct-11	8000	32000	40000	80000	190000
21-Oct-11	7000	28000	35000	70000	
22-Oct-11	11250	45000	56250	112500	170000
23-Oct-11	1000	4000	5000	10000	
24-Oct-11	1500	6000	7500	15000	
25-Oct-11	7250	29000	36250	72500	147500
26-Oct-11	8500	34000	42500	85000	
27-Oct-11	9500	38000	47500	95000	185000
28-Oct-11	4250	17000	21250	42500	
29-Oct-11	9000	36000	45000	90000	182500
30-Oct-11	2500	10000	12500	25000	
31-Oct-11	6250	25000	31250	62500	165000
<b>Monthly Totals</b>	<b>209500</b>	<b>838000</b>	<b>1047500</b>	<b>2095000</b>	<b>2635000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 19180.7 Pounds/Month  
Coagulant polymer: 618.7 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : November 2011**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Nov-11	8000	32000	40000	80000	
2-Nov-11	11000	44000	55000	110000	185000
3-Nov-11	8750	35000	43750	87500	
4-Nov-11	7000	28000	35000	70000	192500
5-Nov-11	1500	6000	7500	15000	
6-Nov-11	1000	4000	5000	10000	105000
7-Nov-11	10500	42000	52500	105000	
8-Nov-11	6750	27000	33750	67500	115000
9-Nov-11	5250	21000	26250	52500	
10-Nov-11	9500	38000	47500	95000	177500
11-Nov-11	6750	27000	33750	67500	
12-Nov-11	500	2000	2500	5000	162500
13-Nov-11	2500	10000	12500	25000	
14-Nov-11	9500	38000	47500	95000	
15-Nov-11	10750	43000	53750	107500	150000
16-Nov-11	7750	31000	38750	77500	
17-Nov-11	9250	37000	46250	92500	182500
18-Nov-11	6750	27000	33750	67500	
19-Nov-11	500	2000	2500	5000	200000
20-Nov-11	500	2000	2500	5000	
21-Nov-11	250	1000	1250	2500	
22-Nov-11	0	0	0	SHUTDOWN	
23-Nov-11	0	0	0	"	
24-Nov-11	0	0	0	"	
25-Nov-11	0	0	0	"	
26-Nov-11	0	0	0	"	
27-Nov-11	0	0	0	"	
28-Nov-11	0	0	0	"	
29-Nov-11	0	0	0	"	
30-Nov-11	0	0	0		
<b>Monthly Totals</b>	<b>124250</b>	<b>497000</b>	<b>621250</b>	<b>1242500</b>	<b>1470000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 11866.7 Pounds/Month  
Coagulant Polymer : 565.1 Pounds/Month



**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : December 2011**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Dec-11	0	0	0		
2-Dec-11	0	0	0		
3-Dec-11	0	0	0		
4-Dec-11	0	0	0		
5-Dec-11	6750	27000	33750	67500	130000
6-Dec-11	5250	21000	26250	52500	
7-Dec-11	10250	41000	51250	102500	160000
8-Dec-11	7000	28000	35000	70000	
9-Dec-11	8500	34000	42500	85000	
10-Dec-11	6500	26000	32500	65000	165000
11-Dec-11	2250	9000	11250	22500	
12-Dec-11	5750	23000	28750	57500	
13-Dec-11	8250	33000	41250	82500	194500
14-Dec-11	6750	27000	33750	67500	
15-Dec-11	9500	38000	47500	95000	192500
16-Dec-11	8750	35000	43750	87500	
17-Dec-11	2000	8000	10000	20000	190000
18-Dec-11	0	0	0		
19-Dec-11	0	0	0		180000
20-Dec-11	0	0	0		
21-Dec-11	0	0	0		
22-Dec-11	0	0	0		
23-Dec-11	0	0	0		
24-Dec-11	0	0	0		
25-Dec-11	0	0	0		
26-Dec-11	0	0	0		
27-Dec-11	0	0	0		
28-Dec-11	0	0	0		
29-Dec-11	0	0	0		
30-Dec-11	0	0	0		
31-Dec-11	0	0	0		
<b>Monthly Totals</b>	<b>87500</b>	<b>350000</b>	<b>437500</b>		

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 1604.0 Pounds/Month  
Coagulant Polymer : 460.2 Pounds/Month

**StarKist Samoa CO**  
**Ocean Dump Site Monitoring Reports**

08 - Oct - 2011		TSS mg/l SKS	TVSS mg/l SKS	TP mg/l SKS	TN mg/l SKS	O&G mg/l SKS	Ammonia mg/l SKS
	Depth (m)						
Station 1	control-1	4.0	1.5	0.010	0.25	0.50	0.041
	control-3	4.5	2.5	0.020	0.25	0.25	0.048
	control-10	5.0	2.0	0.015	0.35	0.25	0.043
	1	4.5	2.0	0.005	0.10	0.49	0.024
	3	4.5	3.5	0.025	0.20	0.25	0.032
	10	5.0	1.5	0.025	0.35	0.38	0.034
Station 2	1	4.5	2.0	0.005	0.30	0.37	0.040
	3	5.5	2.5	0.010	0.20	0.34	0.037
	10	4.5	2.5	0.015	0.15	0.36	0.037
Station 3	1	4.0	2.5	0.000	0.05	0.62	0.045
	3	5.0	2.5	0.005	0.25	0.25	0.041
	10	4.0	3.0	0.035	0.20	0.62	0.040
Station 4	1	5.0	3.0	0.000	0.10	0.45	0.028
	3	4.5	1.5	0.005	0.30	0.25	0.043
	10	4.5	1.5	0.015	0.10	0.37	0.049
Station 5	1	4.5	2.0	0.015	0.30	0.37	0.041
	3	5.0	3.0	0.030	0.05	0.23	0.046
	10	4.5	2.5	0.005	0.30	0.38	0.047

Nov - 11- 2011		TSS mg/l SKS	TVSS mg/l SKS	TP mg/l SKS	TN mg/l SKS	O&G mg/l SKS	Ammonia mg/l SKS
	Depth (m)						
Station 1	control-1	4.5	3.0	0.025	0.30	0.47	0.039
	control-3	5.0	2.5	0.020	0.20	0.49	0.040
	control-10	5.0	2.0	0.000	0.25	0.36	0.027
	1	6.0	3.0	0.015	0.05	0.25	0.033
	3	4.5	2.5	0.005	0.00	0.25	0.042
	10	5.5	2.5	0.010	0.25	0.23	0.033
Station 2	1	5.0	1.5	0.015	0.40	0.25	0.040
	3	4.5	2.0	0.005	0.25	0.59	0.049
	10	4.5	2.5	0.015	0.25	0.25	0.043
Station 3	1	4.0	1.5	0.015	0.35	0.23	0.036
	3	5.0	1.5	0.025	0.20	0.25	0.042
	10	4.5	2.5	0.020	0.15	0.38	0.023
Station 4	1	4.5	3.0	0.005	0.35	0.37	0.027
	3	5.0	2.5	0.035	0.20	0.47	0.041
	10	5.0	2.5	0.020	0.05	0.37	0.044
Station 5	1	5.5	1.5	0.010	0.20	0.53	0.029
	3	5.5	3.0	0.000	0.45	0.37	0.025
	10	5.0	1.5	0.010	0.05	0.50	0.038

TSS is reported as non-filterable residue

TVSS is reported as volatile non-filterable residue

**StarKist Samoa CO**  
**Ocean Dump Site Monitoring Reports**

Dec - 09 - 2011		TSS mg/l SKS	TVSS mg/l SKS	TP mg/l SKS	TN mg/l SKS	O&G mg/l SKS	Ammonia mg/l SKS
	Depth (m)						
Station 1	control-1	5.0	1.5	0.010	0.20	0.67	0.028
	control-3	4.0	3.0	0.020	0.15	0.63	0.020
	control-10	5.5	1.5	0.025	0.20	0.56	0.040
	1	4.5	2.0	0.025	0.05	0.49	0.028
	3	5.0	2.5	0.005	0.35	0.25	0.028
	10	4.5	2.5	0.020	0.30	0.64	0.041
Station 2	1	6.5	1.5	0.010	0.25	0.34	0.043
	3	4.5	2.5	0.015	0.10	0.48	0.022
	10	5.0	2.5	0.000	0.10	0.59	0.026
Station 3	1	5.5	2.5	0.000	0.15	0.22	0.033
	3	5.5	2.0	0.015	0.15	0.58	0.024
	10	6.5	1.5	0.020	0.15	0.49	0.032
Station 4	1	5.0	2.5	0.000	0.10	0.57	0.022
	3	5.0	3.0	0.010	0.15	0.58	0.041
	10	5.0	3.0	0.005	0.05	0.49	0.015
Station 5	1	5.0	2.5	0.005	0.30	0.76	0.023
	3	5.0	3.0	0.005	0.30	0.34	0.031
	10	5.5	3.5	0.015	0.00	0.51	0.035

TSS is reported as non-filterable residue

TVSS is reported as volatile non-filterable residue

# Ocean Disposal Site Monitoring Report (OD Permit 93-01 & 93-02)

07 October, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 October, 2011

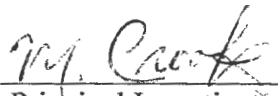
## Introduction

On October 07, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0520:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.8' W.
- 0624:** The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east to southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0620:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with East & SE swells to 1.5 meters and east winds at 7 knots (kts.) with the barometer reading 29.61. Current set and drift of the ship, by GPS, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0645:** The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 09:36 hrs.
- 0945:** Station One Monitoring (See Plot #1). Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 10 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west some distance, (about 0.2 miles) away. The current/wind drift of the ship was GPS determined to be westerly at 0.9 knots. No floating or suspended materials were noted here.

- 0955:** Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some light sheen of previous vessel track lines as the only visible indication of the waste plume. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.0 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 1005:** Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed a broad area of continuous streaks and patches of moderate surface sheen along with widespread swaths of floating brown scum and large brown particulates. Also present were much finer and lighter colored, suspended particulate material in light concentration extending down to the limit of visibility (approx. 3-4 meters). Sea & wind conditions remained the same as with the previous two sample stations and the drift rate of the ship between Stations #3 & 4 was 1.1 knots, again, to the west.
- 1015:** Station Four monitoring. This position was in the same large area of moderate surface sheen as Station #3 and showed the same sparsely concentrated fine, light gray colored suspended particulate material but none of the floating scum etc. The westerly current/drift rate of the ship was again noted here to be at 1.1 knots. No sea-life was observed.
- 1030:** Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.35 NM west of the zone center (See Plot #1). The leading edge of the waste plume was distinctive at this location as an unbroken line of light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Also present in this sheen were more swaths of the floating scum and large particulate material but none of the fine suspended particles. All these materials were various shades of brown. The final drift rate of the ship was noted to be 1.0 knots. Other than a few random seabirds flying, no significant sea life was observed at this position or any of the previous stations. The final barometer reading was 29.62 when monitoring activities were concluded at 1040 hrs. The *Blue Moon* exited the disposal zone at 1048 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1140 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table**

Date: 07 October, 2011	Sea Conditions: Slight w/ SE & Easterly swells to 1.5 meters.				Wind: East @ 7 - 10 knots		Visibility: Unlimited	
	Barometer: 29.61 ↑ 29.63 ↓ 29.62		Current Set & Drift Rate: West @ average 1.0 knots			Sky: Partly cloudy, 25 - 50%		
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color		
0635	Control	1	26.1	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.		
		3	26.1	8.2				
		10	26.1	8.2				
0945	Station 1	1	27.5	8.2	None	Same color qualities as Control Station, clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current		
		3	27.5	8.2				
		10	27.2	8.2				
0955	Station 2	1	27.5	8.2	Slightly Pungent	Broken patches of previous vessel track lines and streaks of slight surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.		
		3	27.2	8.2				
		10	27.2	8.2				
1005	Station 3	1	27.8	8.2	Pungent	In a long north to south extending area of moderate surface sheen with many floating swaths composed of brown scum and large brownish particulates.		
		3	27.2	8.2				
		10	27.5	8.2				
1015	Station 4	1	27.8	8.2	Pungent	Part of the same broad area of moderate surface sheen as St. #3 with many floating swaths of large brown particulates and also lighter, fine suspended particles in the water column to the limit of visibility.		
		3	27.8	8.2				
		10	27.5	8.2				
1030	Station 5	1	27.2	8.2	Pungent	Leading Edge of the waste plume. Distinct boundary of light to moderate surface sheen along with the same floating and suspended particulates as described at Station #4 but not as dense. Clear & natural blue seas further down-current to the West		
		3	27.2	8.2				
		10	27.2	8.2				

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.05'	South	170° 37.18'	West
Station 1	14° 24.00'	South	170° 36.99'	West
Station 2	14° 23.95'	South	170° 37.24'	West
Station 3	14° 23.97'	South	170° 37.53'	West
Station 4	14° 23.95'	South	170° 37.89'	West
Station 5	14° 23.96'	South	170° 38.64'	West

N ▲

170° 40.23' W

170° 36.82' W

170° 33.41' W

PLOT #1

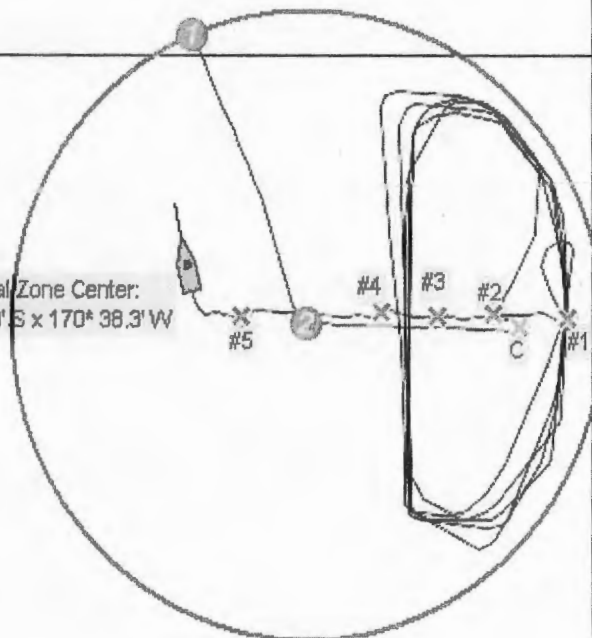
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
07 October, 2011

*M. Crook*

M. Crook, Investigator

14° 22.73' S

Disposal Zone Center:  
14° 24.0' S x 170° 38.3' W



←  
Current Set: West

14° 26.14' S



# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

10 November, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
14 November, 2011

## Introduction


On November 10, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0623:** The *Blue Moon* arrived at the dump-zone center, where observed light northeasterly winds and slight east to NE seas initially indicated disposal operations be conducted in the northeastern dump-zone quadrant.
- 0635:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or northeast (NE) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with station's position were recorded (Table 1). Seas at this time were slight with east & NE swells to 1.0 meters and a NE breeze of 10 knots with the barometer reading 29.53. Current set and drift, of the ship, were to the southwest at 0.6 knots. No floating materials or sea life were observed here.
- 0648:** The *Blue Moon* began disposal operations in the NE dump zone quadrant and continued discharging cargo (high-strength waste water) with a northwest (NW) to SE reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 10:15 hrs.
- 1025:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The NE winds had stayed constant at 10 knots with still overcast skies. The waste plume appeared here as an oblong body of light/moderate glassy surface sheen extending in a northwest (NW) to SE direction and moving slowly to the southwest (SW). The current/wind drift of the ship was GPS determined to be, as at Control Station, southwesterly @ 0.6 knots. No sea life or

floatable materials were observed.

- 1035:**     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some very light, glassy surface sheen but no floating or suspended particulate material. The average drift rate of the ship with current and wind was GPS determined to be southwesterly at 0.7 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1045:**     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed some streaks of moderate glassy surface sheen over clear blue water. The drift rate of the ship between Stations #3 & 4 was again, 0.7 knots to the SW.
- 1055:**     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM SW of Station #3, showed a long, unbroken vessel track-line of typical heavy glassy surface sheen characteristic of the high strength wastewater extending in a NW to SE direction over 2 NM long and was within 0.25 NM from the visible leading edge of the plume. There were no floating or suspended materials. The SW current/drift rate of the ship was again noted here to be at 0.7 knots.
- 1105:**     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and just slightly NE of the zone center (See Plot #1). The leading edge of the waste plume was not clearly visible at this location and consisted of just a few scattered streaks of very light glassy surface sheen with clear, natural appearing blue waters further down-current to the southwest. The final drift rate of the ship was noted to be 0.6 knots and the waste plume appeared to be nearly stationary. Other than a few random seabirds flying by, no notable sea life was observed at this position or any of the other sampling stations. The final barometer reading was 29.54 when monitoring activities were concluded at 11:19 hrs. The *Blue Moon* exited the disposal zone at 11:31 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 12:20 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> November 10, 2011	<b>Sea Conditions:</b> Slight w/ East & NE swells to 1.0 meters.					<b>Wind:</b> Northeast @ 10 knots steady.	<b>Visibility:</b> Good 8-10 NM
	<b>Barometer:</b> 29.53 ^ 29.54		<b>Current Set &amp; Drift Rate:</b> Southwest @ average 0.6 knots			<b>Sky:</b> Cloudy 100%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0635	Control	1	27.2	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.2			
		10	26.7	8.2			
1025	Station 1	1	28.3	8.2	None	Scattered patches of moderate surface sheen over deep, blue & clear water. No floating or suspended materials	
		3	27.8	8.2			
		10	27.8	8.2			
1035	Station 2	1	27.8	8.2	Slightly Pungent	A few broken patches and streaks of light surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.	
		3	27.8	8.2			
		10	27.8	8.2			
1045	Station 3	1	28.3	8.2	Slightly Pungent	Same as Station #1.	
		3	28.0	8.2			
		10	28.0	8.2			
1055	Station 4	1	28.3	8.1	Slightly Pungent	Long northwest to southeast extending track line of moderate to heavy surface sheen over clear blue water.	
		3	28.3	8.1			
		10	28.3	8.1			
1105	Station 5	1	28.3	8.2	None	Leading Edge of the waste plume. Indistinct boundary of plume and clear, natural blue seas further down-current to the southwest. Just a few scattered streaks of very light surface sheen. No particulate materials.	
		3	28.3	8.2			
		10	28.3	8.2			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 23.51'	South	170° 37.24'	West
Station 1	14° 24.40'	South	170° 37.05'	West
Station 2	14° 23.49'	South	170° 37.36'	West
Station 3	14° 23.65'	South	170° 37.58'	West
Station 4	14° 23.75'	South	170° 37.85'	West
Station 5	14° 23.96'	South	170° 38.12'	West

170 42.05 W

170 39.30 W

170 36.51 W

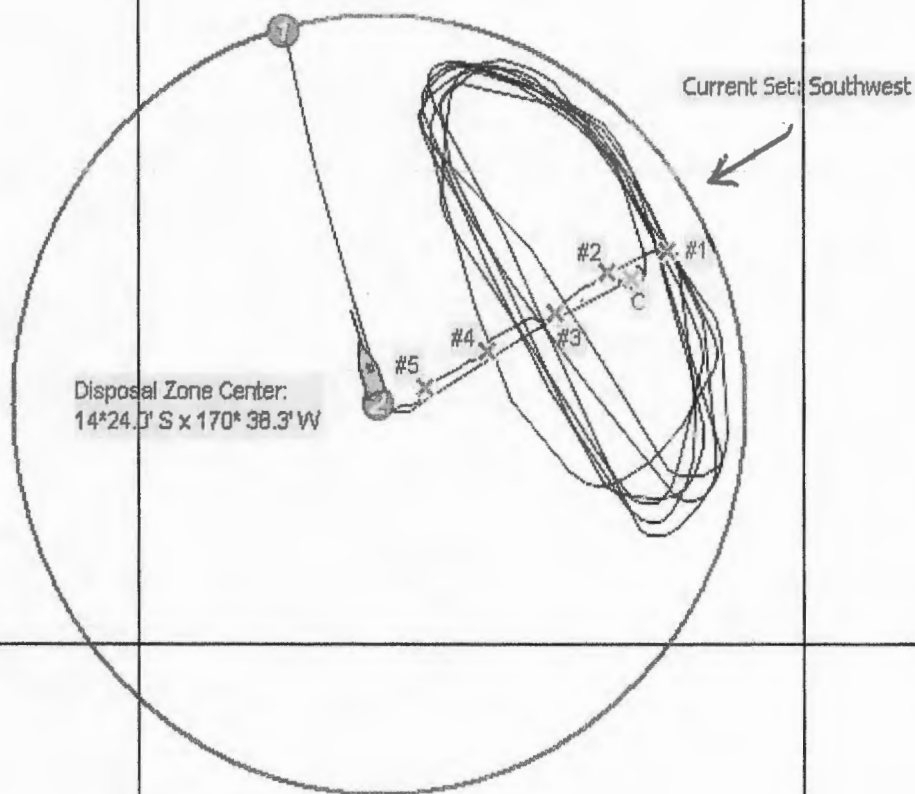
PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
10 November, 2011

*M. Crook*

M. Crook, Investigator

422.11 S

424.90 S



# Ocean Disposal Site Monitoring Report (OD Permit 93-01 & 93-02)

08 December, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 December, 2011

## Introduction

On December 08, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0606:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.7' W.
- 0615:** The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0625:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with east/SE swells to 1.5 meters and east winds at 12 knots (kts.) with the barometer reading 29.59. Current set and drift, of the ship, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0637:** The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.4 miles long (see Plot 1) until 0922 hrs.
- 0935:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 15 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west a short distance, (approximately 0.25 miles) away. The current/wind drift of the ship was GPS determined to be westerly @ 1.3 knots. No sea life or floating materials were observed.

- 0945:** Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed only a few scattered patches of light surface sheen over clear, natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.2 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 0955:** Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position had the same color qualities as Station # 1, that is, no visible sign of the waste plume. Sea & wind conditions remained the same as with the previous sample stations and the drift rate of the ship between Stations #3 & 4 was 1.2 knots, again, to the west.
- 1005:** Station Four monitoring. This area showed more of the same broken streaks and patches of very light surface sheen over clear blue subsurface water present at Station #2. The westerly current/drift rate of the ship was again noted here to be at 1.2 knots. No floating scum or suspended particulate materials were observed at any of these sample stations.
- 1015:** Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.08 NM SW of the zone center (see Plot #1). The leading edge of the waste plume was not clearly visible at this location as there was only an occasional small patch or streak of very light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Again, no floating or suspended scum or particulates were noted at any of the five sampling stations. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.60 when monitoring activities were concluded at 1023 hrs. The *Blue Moon* exited the disposal zone at 1034 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 11:25.

Prepared by   
Mike Crook, Principal Investigator



# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

<b>Date:</b> December 08 2011	<b>Sea Conditions:</b> Slight with East/Southeast swells to 1.5 meters.					<b>Wind:</b> East @ 10 - 15 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.58 ↑ 29.60		<b>Current Set &amp; Drift Rate:</b> West @ average 1.2 knots			<b>Sky:</b> Partly cloudy w/ some passing rain	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0625	Control	1	27.8	8.0	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.1			
		10	27.2	8.0			
0935	Station 1	1	28.3	8.3	None	Same color qualities as Control Station; clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current	
		3	27.8	7.9			
		10	27.8	8.1			
0945	Station 2	1	27.8	8.3	Slightly Pungent	Streaks and patches of light, glassy surface sheen from broken up, north to south running vessel discharge track lines. No sign of floating or particulate materials.	
		3	27.8	7.7			
		10	27.8	7.9			
0955	Station 3	1	28.3	8.0	none	Same color qualities as Control & Station #1	
		3	28.0	8.1			
		10	28.0	8.2			
1005	Station 4	1	28.3	8.2	Slightly Pungent	A few scattered streaks & patches of very light, glassy surface sheen over deep, clear blue. No floating or suspended particulate or other material.	
		3	28.3	8.1			
		10	28.0	7.5			
1015	Station 5	1	28.3	8.3	Slightly Pungent	Leading edge of the waste plume: Same color & sheen observations as at Station #4 and located very close to the disposal zone center.	
		3	28.0	8.2			
		10	28.0	7.8			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.09'	South	170° 37.17'	West
Station 1	14° 24.10'	South	170° 36.94'	West
Station 2	14° 24.13'	South	170° 37.30'	West
Station 3	14° 24.14'	South	170° 37.52'	West
Station 4	14° 24.12'	South	170° 37.85'	West
Station 5	14° 24.08'	South	170° 38.30'	West

N ▲

170 39.60 W

170 36.80 W

170 34.00 W

14 22.40 S

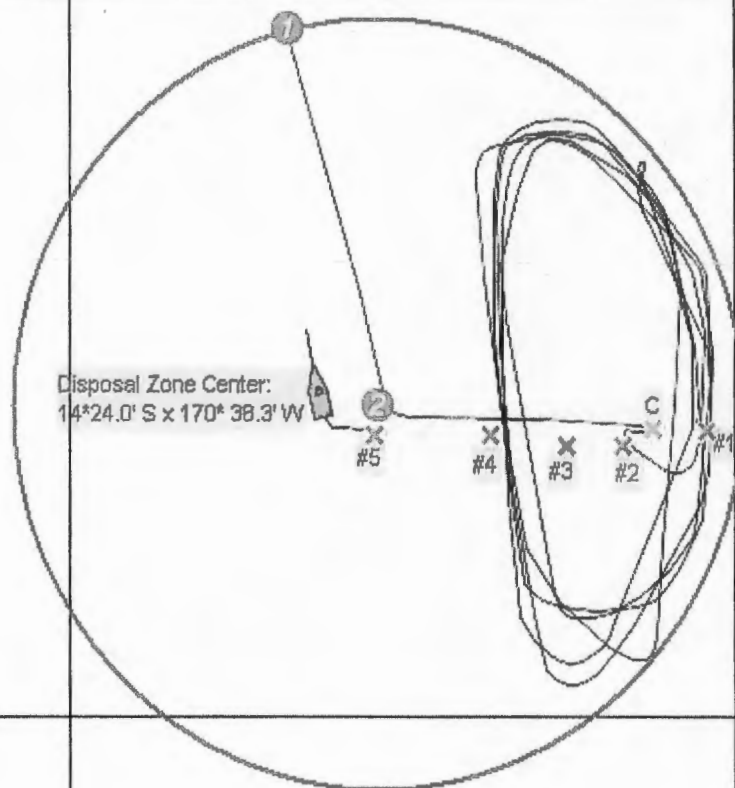
14 25.20 S

PLOT #1

Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
08 December, 2011

*M. Crook*

M. Crook, Investigator



# OCEAN DUMPING MONTHLY SUMMARY

F/V BLUE MOON

October, 2011

NUMBER OF TRIPS:	Starkist	Other	Joint	TOTAL:
	15	0	0	15

GALLONS-FOR THE MONTH:	Starkist	Other	Joint	TOTAL:
	2,640,000	0	0	2,640,000

GALLONS FOR SOLO TRIPS:	Starkist	Other
	2,640,000	0

RUNNING TIME ON TRIPS: 83.0 hours

DISCHARGE TIME ON TRIPS: 46.5 hrs.

AV. GPM DISCHARGE RATE: 113.7 gal/min/kt

AV. TRIP TIME: 5.53 hrs.

AV. PERCENTAGE OF VESSEL USED BY EACH CANNERY - BY GALLONAGE:

Starkist	Other
100.00%	0.00%

MASTER:

M. Crook

Date: 10/01/11 Sat.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5482

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded:

SK

Other

Total

187,500

0

187,500

Trip #1 - X

Trip #2

9/30 0530 Begin 1<sup>st</sup> Loading SK  
 7/30 0350 Finish 1<sup>st</sup> Loading SK  
 1830 Begin 2<sup>nd</sup> Loading SK  
 2130 Finish 2<sup>nd</sup> Loading SK

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
0515	Depart Starkist		14°16.50' S	170°41.2' W	Calm	15	29.62	Metric	8.3
0612	Arrive Edge of Zone	#1	14°22.59' S	170°38.68' W	"	20	29.63	5 to E-2.0	8.3
0624	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	East-3	"	"	" " X	8.3
0634	Begin Discharge	#3	14°23.98' S	170°36.74' W	" "	"	"	" " X	7.6
" 49		#4	14°23.71' S	170°37.65' W	" "	"	"	" "	8.3
0704	Remarks:	#5	14°24.67' S	170°37.03' W	" "	15	"	" "	8.1
" 19		#6	14°23.11' S	170°37.65' W	" "	"	"	" "	7.9
34		#7	14°24.87' S	170°37.30' W	" "	20	"	" " 5	7.6
49		#8	14°24.96' S	170°37.54' W	East-5	"	"	" "	7.5
0804		#9	14°24.73' S	170°37.53' W	" "	25	"	" "	8.4
19		#10	14°23.14' S	170°37.17' W	" "	"	29.64	" "	8.5
34		#11	14°24.32' S	170°37.62' W	" "	30	29.65	" "	8.7
49		#12	14°23.37' S	170°37.05' W	" "	"	"	5 to E-1.510	9.0
0904		#13	14°24.15' S	170°37.79' W	" "	"	29.66	" "	8.8
" 19		#14	14°23.74' S	170°37.01' W	" "	"	"	" "	9.1
" 34		#15	14°23.85' S	170°37.74' W	" "	"	"	" "	9.0
" 49		#16	14°2' S	170°3' W					
		#17	14°2' S	170°3' W					15
		#18	14°2' S	170°3' W					
		#19	14°2' S	170°3' W					
		#20	14°2' S	170°3' W					
			14°2' S	170°3' W					
			14°2' S	170°3' W					20
			14°2' S	170°3' W					
0949	Finish Discharge	#16	14°23.23' S	170°37.76' W	East-5	30%	29.66	5 to E-1.5	9.1
0954	Exit Discharge Zone	#17	14°22.58' S	170°37.97' W	" "	"	"	" "	9.0
1050	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge West/SlowDischarge Pattern EllipseTotal Discharge Time: 195 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 5.6 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 114.5 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: FV Blue Moon

M. C. Cook

Date: 10/03/11 Mon.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5483

Time

Permit # OD 93-01 &amp; OD 93-02

10/2 2300 Begin 1<sup>st</sup> Loading SK  
 10/3 01300 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded: SK 157,500  
 Other 0  
 Total 157,500

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
1300	Depart Starkist		14°16.50' S	170°41.2' W	East-10	40	29.59		
1353	Arrive Edge of Zone	# 1	14°22.63' S	170°38.74' W	East-12	"	"	East/SE-1.5	8.4
1403	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	"	"	"	"	8.3
1412	Begin Discharge	# 3	14°24.03' S	170°37.24' W	"	"	"	"	8.6
" 27		# 4	14°23.34' S	170°37.78' W	"	"	"	"	7.7
" 42	Remarks:	# 5	14°24.72' S	170°37.07' W	"	"	"	"	7.5
" 57		# 6	14°23.07' S	170°37.61' W	"	"	"	"	7.6
1512		# 7	14°24.83' S	170°37.31' W	"	"	"	"	8.0
27		# 8	14°23.08' S	170°37.52' W	"	"	"	"	7.0
42		# 9	14°24.42' S	170°36.99' W	"	50	"	"	8.4
57		# 10	14°23.64' S	170°37.61' W	East-10	"	29.58	"	8.7
1612		# 11	14°24.21' S	170°37.03' W	"	"	"	"	9.0
27		# 12	14°24.06' S	170°37.56' W	"	"	"	"	9.1
42		# 13	14°23.32' S	170°37.19' W	"	60	29.58	"	8.6
57		# 14	14°24.62' S	170°37.54' W	"	50	"	"	8.7
1712		# 15	14°2' S	170°3' W					
		# 16	14°2' S	170°3' W					
		# 17	14°2' S	170°3' W					15
		# 18	14°2' S	170°3' W					
		# 19	14°2' S	170°3' W					
		# 20	14°2' S	170°3' W					
			14°2' S	170°3' W					
			14°2' S	170°3' W					20
			14°2' S	170°3' W					
1712	Finish Discharge	# 15	14°23.12' S	170°37.74' W	East-10	50	29.57	East/SE-1.5	9.0
1716	Exit Discharge Zone	# 16	14°22.63' S	170°37.84' W	"	"	"	"	9.3
1810	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 180 mins. Average Speed During Discharge: 8.31 kts. Total Time Run 5.2 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 105.3 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: FV Blue Moon

M. P. Cook

Date: 10/05/11 Weds.

F/V Blue Moon Ocean Dumping Log

Voyage #: 5484

Time

Permit # OD 93-01 &amp; OD 93-02

10/04 1830 Begin 1<sup>st</sup> Loading SK  
 " " 2100 Finish 1<sup>st</sup> Loading SK  
 10/05 0100 Begin 2<sup>nd</sup> Loading SK  
 " " 1200 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded: SK

Other

Total

172,500

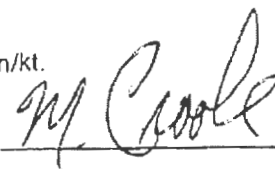
0

172,500

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
									Metric	kts
1535	Depart Starkist		14°16.50' S	170°41.2' W	Calm	70	29.59			
1634	Arrive Edge of Zone	# 1	14°22.56' S	170°38.76' W	NE-3	"	"	SE-1.5		7.0
1645	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	Calm	"	"			7.5
1655	Begin Discharge	# 3	14°23.76' S	170°37.23' W	East-3	60			X	7.8
1710		# 4	14°23.33' S	170°37.81' W	" "	"				7.7
25	Remarks:	# 5	14°25.09' S	170°37.85' W		"				7.5
40		# 6	14°23.33' S	170°37.19' W		"				7.9
55		# 7	14°24.55' S	170°37.71' W		"			5	8.6
1810		# 8	14°24.24' S	170°37.01' W	East-5	"				8.5
25		# 9	14°23.68' S	170°37.66' W	" "	50				8.5
40		# 10	14°24.39' S	170°37.11' W	" "	"				8.7
55		# 11	14°23.54' S	170°37.68' W	" "	"	29.60			8.7
1910		# 12	14°25.00' S	170°37.34' W	" "	40			10	8.2
25		# 13	14°23.16' S	170°37.60' W	" "	"	29.61			8.1
40		# 14	14°24.87' S	170°37.33' W						8.4
55		# 15	14°23.14' S	170°37.64' W			29.62			8.3
2010		# 16	14°2' S	170°3' W						
		# 17	14°2' S	170°3' W					15	
		# 18	14°2' S	170°3' W						
		# 19	14°2' S	170°3' W						
		# 20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W					20	
			14°2' S	170°3' W						
2003	Finish Discharge	#16	14°22.97' S	170°37.36' W	East-5	40%	29.62	SE-1.5		8.9
2004	Exit Discharge Zone	#17	14°22.82' S	170°37.42' W	" "	"	29.63	" "		9.0
2105	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 188 mins. Average Speed During Discharge: 8.3 kts. Total Time Run 5.5 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: NoneDischarge Rate: 110.5 Gallons/min/kt.Unusual Occurrences? Late trip due to mesh problem w/ shipNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon



Date: 10/07/11 Fri.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5485

Time

Permit # OD 93-01 &amp; OD 93-02

10/6 1700 Begin 1<sup>st</sup> Loading SK  
 2130 Finish 1<sup>st</sup> Loading SK  
 10/7 0100 Begin 2<sup>nd</sup> Loading SK  
 0430 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

185,000

0

185,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	fts
0520	Depart Starkist		14°16.50' S	170°41.2' W	East-5	30	29.61		
0613	Arrive Edge of Zone	#1	14°22.67' S	170°38.89' W	East-7	"	"	E+SE-1.5	8.0
0624	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	" "	"	"	" "	7.5
0645	Begin Discharge	#3	14°23.88' S	170°37.27' W	" "	40	"	" " X	7.2
0700		#4	14°23.60' S	170°37.76' W	" "	"	"	" "	8.1
15	Remarks: Ocean	#5	14°24.62' S	170°37.09' W	" "	"	"	" "	8.3
30	Monitoring	#6	14°23.02' S	170°37.68' W	" "	"	29.62	" "	7.8
45	Central Samples	#7	14°25.04' S	170°37.35' W	" "	"	"	" "	8.4
0800	Drawn at	#8	14°23.23' S	170°37.10' W	" "	50	"	" "	8.6
15	Time: 0635 hrs	#9	14°24.35' S	170°37.76' W	" "	"	"	" "	8.6
30	Position:	#10	14°23.78' S	170°36.57' W	" "	"	"	" "	9.0
45	14°24.05' S x	#11	14°23.85' S	170°37.79' W	East-10	40	29.63	" "	8.8
0900	170°37.18' W	#12	14°24.10' S	170°36.97' W	" "	"	"	" "	9.3
15		#13	14°23.32' S	170°37.86' W	" "	30	"	" "	8.9
30		#14	14°24.47' S	170°37.17' W	" "	"	"	" "	9.0
45		#15	14°2' S	170°3' W	" "	"	"	" "	
1000		#16	14°2' S	170°3' W	" "	"	"	" "	
		#17	14°2' S	170°3' W	" "	"	"	" "	15
		#18	14°2' S	170°3' W	" "	"	"	" "	
		#19	14°2' S	170°3' W	" "	"	"	" "	
		#20	14°2' S	170°3' W	" "	"	"	" "	
			14°2' S	170°3' W	" "	"	"	" "	
			14°2' S	170°3' W	" "	"	"	" "	20
			14°2' S	170°3' W	" "	"	"	" "	
0936	Finish Discharge	#15	14°23.84' S	170°36.79' W	East-10	25%	29.63	E+SE-1.5	9.1
1048	Exit Discharge Zone	#16	14°22.79' S	170°39.14' W	" "	"	29.62	" "	9.3
1140	Secure SK Dock		14°16.50' S	170°41.2' W	" "	"	"	" "	

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 171 mins. Average Speed During Discharge: 8.55 kts. Total Time Run: 6.33 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: NoneDischarge Rate: 126.5 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒

Master: F/V Blue Moon

M. Cross

Date: 10/10/11 Mon.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5486

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded: SK

Other

Total

10/8  
10/10

1700 Begin 1<sup>st</sup> Loading SK  
1200 Finish 1<sup>st</sup> Loading SK  
Begin 2<sup>nd</sup> Loading SK  
Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

197,000 m.c.

200,000

0

197,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
1220	Depart Starkist		14°16.50' S	170°41.2' W	East-15	30	29.63		
1314	Arrive Edge of Zone	#1	14°22.57' S	170°38.72' W	" "	"	"	E/SE-1.5	8.0
1325	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	" "	40	"	"	7.7
1335	Begin Discharge	#3	14°24.07' S	170°37.23' W	" "	"	29.62	" " X	7.1
50		#4	14°23.38' S	170°37.79' W	" "	"	"	"	8.3
1405	Remarks:	#5	14°24.94' S	170°37.43' W	" "	50	"	"	6.9
20		#6	14°23.05' S	170°37.23' W	" "	"	29.61	"	8.3
35		#7	14°24.15' S	170°37.91' W	" "	60	"	"	8.4
50		#8	14°23.16' S	170°37.06' W	" "	"	29.60	"	8.3
1505		#9	14°23.33' S	170°37.76' W	" "	"	"	"	8.6
20		#10	14°24.61' S	170°37.32' W	" "	"	29.59	"	8.0
35		#11	14°23.15' S	170°37.70' W	" "	"	"	"	8.5
50		#12	14°24.99' S	170°37.65' W	" "	70-Heavy	"	"	7.0
1605		#13	14°23.30' S	170°37.19' W	" "	70%	"	"	9.0
20		#14	14°24.61' S	170°37.84' W	" "	70	"	"	9.0
35		#15	14°23.72' S	170°37.18' W	" "	"	"	"	8.5
		#16	14°2' S	170°3' W					
		#17	14°2' S	170°3' W					15
		#18	14°2' S	170°3' W					
		#19	14°2' S	170°3' W					
		#20	14°2' S	170°3' W					
			14°2' S	170°3' W					
			14°2' S	170°3' W					20
			14°2' S	170°3' W					
1643	Finish Discharge	#16	14°22.82' S	170°37.55' W	East-15	70%	29.59	E/SE-1.5	9.1
1647	Exit Discharge Zone	#17	14°22.59' S	170°37.92' W	" "	"	"	"	9.1
1740	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 188 mins. Average Speed During Discharge: 8.2 kts. Total Time Run 5.33 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 128 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook



Date: 10/12/11 Weds.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5487

Time

Permit # OD 93-01 &amp; OD 93-02

10/11 1700 Begin 1<sup>st</sup> Loading SK  
 2100 Finish 1<sup>st</sup> Loading SK  
 10/12 0000 Begin 2<sup>nd</sup> Loading SK  
 0430 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X  
 Trip # 2

Volume Loaded: SK  
 Other  
 Total

172,500  
 0  
 172,500

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
0550	Depart Starkist		14°16.50' S	170°41.2' W	East-15	100	29.61		
0649	Arrive Edge of Zone	# 1	14°22.56' S	170°38.68' W	East-18	"	29.63	E/SE-2.0	7.8
0700	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	"	100-Rain	"	"	7.9
0710	Begin Discharge	# 3	14°24.11' S	170°37.15' W	East-15	100	"	" X	7.6
25		# 4	14°23.47' S	170°37.55' W	"	90	"	"	7.8
40	Remarks:	# 5	14°24.81' S	170°37.09' W	"	"	29.64	"	7.5
55		# 6	14°23.19' S	170°37.45' W	"	"	"	"	7.7
0810		# 7	14°24.80' S	170°37.61' W	East-18	"	"	" 5	7.3
25		# 8	14°23.45' S	170°37.02' W	East-20	"	"	"	8.1
40		# 9	14°24.24' S	170°37.67' W	"	"	"	"	8.2
55		# 10	14°23.71' S	170°36.88' W	"	"	"	"	8.2
0910		# 11	14°23.85' S	170°37.60' W	"	80	29.63	"	8.1
25		# 12	14°24.39' S	170°36.90' W	"	"	"	10	8.3
40		# 13	14°23.49' S	170°37.62' W	"	70	"	"	7.5
55		# 14	14°24.37' S	170°36.96' W	"	60	"	"	8.2
1010		# 15	14°23.25' S	170°37.63' W	"	50	"	"	7.6
25		# 16	14°24.81' S	170°37.16' W	"	40	29.62	"	7.9
		# 17	14°2' S	170°3' W				15	
		# 18	14°2' S	170°3' W					
		# 19	14°2' S	170°3' W					
		# 20	14°2' S	170°3' W					
			14°2' S	170°3' W				20	
			14°2' S	170°3' W					
1030	Finish Discharge	# 17	14°24.18' S	170°36.97' W	East-20	30%	29.62	E/SE-2.0+	8.5
1041	Exit Discharge Zone	# 18	14°22.86' S	170°37.42' W	"	"	29.63	"	8.7
1140	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 200 mins. Average Speed During Discharge: 7.9 kts. Total Time Run 5.8 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 109 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook

Date: 10/14/11 Fri.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5488

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded:

SK

Other

Total

185,500

0

185,500

10/13 1530 Begin 1<sup>st</sup> Loading SK  
 2130 Finish 1<sup>st</sup> Loading SK  
 10/14 0130 Begin 2<sup>nd</sup> Loading SK  
 0300 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
0530	Depart Starkist		14°16.50' S	170°41.2' W	CalM	100	29.63		
0624	Arrive Edge of Zone	#1	14°22.58' S	170°38.61' W	East-10	"	29.66	ESE-3.0	8.0
0634	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	" "	"	"	"	7.9
0643	Begin Discharge	#3	14°24.16' S	170°37.19' W	" "	"	"	"	8.1
" 58		#4	14°23.60' S	170°37.61' W	" "	"	29.67	"	8.3
0713	Remarks:	#5	14°24.97' S	170°37.22' W	" "	"	"	"	7.4
" 28		#6	14°23.07' S	170°37.30' W	" "	"	"	"	7.3
" 43		#7	14°24.87' S	170°37.55' W	" "	"	"	"	7.1
" 58		#8	14°23.34' S	170°37.03' W	" "	"	29.68	"	7.7
0813		#9	14°24.47' S	170°37.57' W	" "	"	"	"	8.7
" 28		#10	14°23.79' S	170°36.90' W	East-12	"	"	"	8.1
" 43		#11	14°24.02' S	170°37.59' W	" "	"	"	"	8.8
" 58		#12	14°24.05' S	170°36.92' W	" "	"	29.69	"	8.6
0913		#13	14°23.74' S	170°37.58' W	" "	"	"	"	8.6
" 28		#14	14°24.32' S	170°36.92' W	" "	"	"	"	8.4
" 43		#15	14°24.03' S	170°37.70' W	" "	"	"	"	8.5
" 58		#16	14°24.00' S	170°37.54' W	" "	"	29.70	"	8.6
		#17	14°2' S	170°3' W					15
		#18	14°2' S	170°3' W					
		#19	14°2' S	170°3' W					
		#20	14°2' S	170°3' W					
			14°2' S	170°3' W					
			14°2' S	170°3' W					20
			14°2' S	170°3' W					
1000	Finish Discharge	#17	14°23.75' S	170°37.60' W	East-12	100%	29.70	ESE-3.0	8.6
1009	Exit Discharge Zone	#18	14°22.58' S	170°37.96' W	" "	"	"	"	8.7
1100	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 197 mins. Average Speed During Discharge: 8.2 kts. Total Time Run: 5.5 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 115 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. P. Cook

Date: 10/16/11 Sun.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5489

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded: SK

Other

Total

192,500

0

192,500

Trip #1 - X

Trip #2

10/15

1500

Begin 1<sup>st</sup> Loading SK

2130

Finish 1<sup>st</sup> Loading SK

10/16

0100

Begin 2<sup>nd</sup> Loading SK

0200

Finish 2<sup>nd</sup> Loading SK

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
0510	Depart Starkist		14°16.50' S	170°41.2' W	East-15	50	29.62		
0608	Arrive Edge of Zone	#1	14°22.57' S	170°38.71' W	ESE-12	70	29.63	ESE-2.0	8.1
0619	Arrive Zone Center	#2	14°24.0 S	170°38.3 W	" "	"	29.64	" "	8.1
0629	Begin Discharge	#3	14°24.79' S	170°37.52' W	" "	"	"	X	7.6
" 44		#4	14°24.28' S	170°37.49' W	" "	"	"		8.2
" 59	Remarks:	#5	14°25.11' S	170°37.42' W	" "	"	"		7.2
0714		#6	14°24.04' S	170°37.39' W	ESE-15	60	"		8.8
" 29		#7	14°25.11' S	170°37.65' W	" "	"	"	5	7.2
" 44		#8	14°24.01' S	170°37.20' W	" "	"	"		7.0
" 59		#9	14°25.24' S	170°37.75' W	" "	"	"		7.3
0814		#10	14°23.95' S	170°37.31' W		"	"		8.3
" 29		#11	14°25.34' S	170°38.28' W		"	"		7.4
" 44		#12	14°24.00' S	170°37.22' W		"	"	10	8.5
" 59		#13	14°25.32' S	170°38.00' W		"	"		7.4
0914		#14	14°24.17' S	170°36.91' W		"	"		8.4
" 29		#15	14°25.38' S	170°38.31' W		50	29.65		7.0
" 44		#16	14°24.26' S	170°36.92' W		40	"		8.3
		#17	14°2 S	170°3 W				15	
		#18	14°2 S	170°3 W					
		#19	14°2 S	170°3 W					
		#20	14°2 S	170°3 W					
			14°2 S	170°3 W					
			14°2 S	170°3 W				20	
			14°2 S	170°3 W					
0948	Finish Discharge	#17	14°23.82' S	170°37.13' W	ESE-15	40%	29.65	ESE-2.0	9.0
0957	Exit Discharge Zone	#18	14°22.70' S	170°37.74' W	" "	"	"	" "	9.0
1050	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center NWEnd of Discharge NWDischarge Pattern EllipseTotal Discharge Time: 199 mins. Average Speed During Discharge: 8.0 kts. Total Time Run 5.66 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 121 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. C. Clark

Date: 10/18/11 Tues.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5490

Time

Permit # OD 93-01 &amp; OD 93-02

10/18

0000 Begin 1<sup>st</sup> Loading SK  
 0600 Finish 1<sup>st</sup> Loading SK  
 / Begin 2<sup>nd</sup> Loading SK  
 / Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

150,000

0

150,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
0625	Depart Starkist		14°16.50' S	170°41.2' W	Calm	60	29.60	Metric		kts
0719	Arrive Edge of Zone	# 1	14°22.50' S	170°38.68' W	East-10	50	"	ESE-2.0	8.2	
0730	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	"	"	"		8.2	
0739	Begin Discharge	# 3	14°24.08' S	170°37.19' W	"	"	29.59	X	7.8	
" 54		# 4	14°23.67' S	170°37.75' W	"	"	"		8.5	
0809	Remarks:	# 5	14°24.89' S	170°37.83' W	"	60	"		7.9	
" 24		# 6	14°24.96' S	170°37.36' W	"	"	"		8.6	
" 39		# 7	14°24.50' S	170°37.80' W	"	"	"	5	8.5	
" 54		# 8	14°23.82' S	170°36.96' W	"	"	"		8.4	
0909		# 9	14°23.55' S	170°37.78' W	East-12	75	"		8.5	
" 24		# 10	14°24.70' S	170°37.15' W	"	"	29.60		8.4	
" 39		# 11	14°23.03' S	170°37.67' W	"	"	"		8.3	
" 54		# 12	14°24.89' S	170°37.42' W	"	"	"	10	8.1	
1009		# 13	14°23.22' S	170°37.08' W	"	70	29.61		8.2	
" 24		# 14	14°2' S	170°3' W						
" 39		# 15	14°2' S	170°3' W						
		# 16	14°2' S	170°3' W						
		# 17	14°2' S	170°3' W					15	
		# 18	14°2' S	170°3' W						
		# 19	14°2' S	170°3' W						
		# 20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W					20	
			14°2' S	170°3' W						
1012	Finish Discharge	# 14	14°23.06' S	170°37.43' W	East-12	70%	29.61	ESE-2.0	9.1	
1016	Exit Discharge Zone	# 15	14°22.64' S	170°37.77' W	"	"	"	"	9.0	
1110	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 153 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 4-75 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 117 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒

Master: F/V Blue Moon

M. Crook

Date: 10/20/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5491

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded: SK

Other

Total

10/19 1530 Begin 1<sup>st</sup> Loading SK  
 2130 Finish 1<sup>st</sup> Loading SK  
 10/20 0000 Begin 2<sup>nd</sup> Loading SK  
 0100 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

190,000

0

190,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
0520	Depart Starkist		14°16.50' S	170°41.2' W	N-5	60	29.59		
0610	Arrive Edge of Zone	# 1	14°22.56' S	170°38.70' W	NE-7	30	"	SE to 2.0	8.3
0621	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	" "	25	"	" "	8.3
0630	Begin Discharge	# 3	14°24.16' S	170°37.20' W	" "	30	"	" " X	8.1
45		# 4	14°23.34' S	170°37.75' W	" "	"	"	" "	8.0
0700	Remarks:	# 5	14°25.00' S	170°37.41' W	NE-10	40	"	" "	7.5
15		# 6	14°23.36' S	170°37.06' W	" "	"	"	" "	8.1
30		# 7	14°24.31' S	170°37.82' W	" "	"	"	" "	9.0
45		# 8	14°24.05' S	170°36.98' W	" "	"	"	" "	8.3
0800		# 9	14°23.52' S	170°37.72' W	" "	"	"	" "	9.1
15		# 10	14°24.85' S	170°37.13' W	" "	"	"	" "	7.8
30		# 11	14°23.10' S	170°37.25' W	" "	"	"	" "	8.6
45		# 12	14°25.01' S	170°37.59' W	" "	"	"	" "	7.5
0900		# 13	14°23.40' S	170°37.03' W	" "	"	"	" "	8.4
15		# 14	14°24.63' S	170°37.68' W	" "	"	"	" "	9.6
30		# 15	14°23.80' S	170°36.96' W	" "	"	"	" "	8.6
		# 16	14°2' S	170°3' W					
		# 17	14°2' S	170°3' W					15
		# 18	14°2' S	170°3' W					
		# 19	14°2' S	170°3' W					
		# 20	14°2' S	170°3' W					
			14°2' S	170°3' W					
			14°2' S	170°3' W					20
			14°2' S	170°3' W					
0937	Finish Discharge	#16	14°22.98' S	170°37.39' W	NE-10	40%	29.59	SE to 2.0	8.6
0940	Exit Discharge Zone	#17	14°22.71' S	170°37.68' W	" "	"	" "	" "	8.5
1040	Secure SK Dock		14°16.50' S	170°41.2' W					

Current Direction: At Center WestEnd of Discharge WESTDischarge Pattern EllipseTotal Discharge Time: 187 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 5.33 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 121 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook

Date: 10/22/11 Sat

## F/V Blue Moon Ocean Dumping Log

Voyage # 5492

Time

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded:

SK

Other

Total

Trip # 1 - X

Trip # 2

10/20	1800	Begin 1 <sup>st</sup> Loading SK
10/21	0100	Finish 1 <sup>st</sup> Loading SK
10/22	0200	Begin 2 <sup>nd</sup> Loading SK
		Finish 2 <sup>nd</sup> Loading SK

170,000
0
170,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
0520	Depart Starkist		14°16.50' S	170°41.2' W	Calm	70	29.59	Metric		Kts.
0617	Arrive Edge of Zone	#1	14°22.55' S	170°38.71' W	East-7	"	29.60	SE to SW-2	8.2	
0628	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	"	"	"	"	7.6	
0637	Begin Discharge	#3	14°24.05' S	170°37.18' W	"	75	"	"	7.2	
" 52		#4	14°23.33' S	170°37.74' W	East-10	70	29.59	"	7.0	
0707	Remarks:	#5	14°24.92' S	170°37.32' W	"	"	"	"	6.8	
" 22		#6	14°23.17' S	170°37.41' W	"	"	"	"	6.4	
" 37		#7	14°24.20' S	170°37.33' W	"	75	"	"	6.9	
" 52		#8	14°24.05' S	170°37.02' W	"	80	29.60	"	6.9	
0807		#9	14°23.42' S	170°37.83' W	"	"	"	"	6.3	
" 22		#10	14°24.70' S	170°37.14' W	"	"	"	"	6.5	
" 37		#11	14°23.10' S	170°37.63' W	"	90	"	"	6.9	
" 52		#12	14°24.93' S	170°37.51' W	"	"	"	"	6.3	
0907		#13	14°23.46' S	170°37.13' W	"	100	29.61	"	6.5	
" 22		#14	14°24.32' S	170°37.84' W	East-12	90	"	"	6.7	
" 37		#15	14°2' S	170°3' W						
" 52		#16	14°2' S	170°3' W						
		#17	14°2' S	170°3' W						
		#18	14°2' S	170°3' W						
		#19	14°2' S	170°3' W						
		#20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W						
0937	Finish Discharge	#15	14°23.59' S	170°37.79' W	East-12	95%	29.61	SE to SW-2	8.6	
0945	Exit Discharge Zone	#16	14°22.54' S	170°38.22' W	"	"	"	"	7.0	
1040	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipticTotal Discharge Time: 180 mins. Average Speed During Discharge: 8.3 kts. Total Time Run 5.33 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 114 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. P. Cook

Date: 10/25/11 Tues.

## FV Blue Moon Ocean Dumping Log

Voyage #: 5493

Time

Permit # OD 93-01 &amp; OD 93-02

10/22 1730 Begin 1<sup>st</sup> Loading SK  
 2100 Finish 1<sup>st</sup> Loading SK  
 10/25 0100 Begin 2<sup>nd</sup> Loading SK  
 0400 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

147,500  
 0  
 147,500

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
								Metric		kts
0520	Depart Starkist		14°16.50' S	170°41.2' W	Calm	100	29.52			
0615	Arrive Edge of Zone	#1	14°22.57' S	170°38.67' W	East-5	"	29.54	ESE-2.0	8.2	
0625	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	"	"	29.55	"	8.3	
0634	Begin Discharge	#3	14°24.06' S	170°37.22' W	"	"	29.56	"	7.8	
" 49		#4	14°23.55' S	170°37.69' W	"	"	"	"	8.0	
0704	Remarks:	#5	14°24.96' S	170°37.27' W	"	"	"	"	7.4	
" 19		#6	14°23.18' S	170°37.22' W	"	"	29.57	"	8.8	
" 34		#7	14°24.64' S	170°37.79' W	"	"	29.58	"	8.5	
" 49		#8	14°23.63' S	170°36.95' W	"	"	"	"	8.6	
0804		#9	14°23.68' S	170°37.73' W	"	"	"	"	8.5	
" 19		#10	14°24.71' S	170°37.66' W	"	"	"	"	8.6	
" 34		#11	14°23.16' S	170°37.69' W	East-7	"	"	"	8.3	
" 49		#12	14°25.13' S	170°37.40' W	"	"	"	"	8.0	
0904		#13	14°23.46' S	170°37.06' W	"	90	"	"	9.0	
" 19		#14	14°25.51' S	170°37.75' W	East-10	"	29.59	"	8.0	
" 34		#15	14°23.96' S	170°36.97' W	"	"	"	"	8.9	
		#16	14°2' S	170°3' W						
		#17	14°2' S	170°3' W					15	
		#18	14°2' S	170°3' W						
		#19	14°2' S	170°3' W						
		#20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W					20	
			14°2' S	170°3' W						
0940	Finish Discharge	#16	14°23.09' S	170°37.24' W	East-10	90%	29.59	ESE-2.0	9.3	
0942	Exit Discharge Zone	#17	14°22.81' S	170°37.43' W	"	"	"	"	9.1	
1040	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 186 mins. Average Speed During Discharge: 8.5 kts. Total Time Run 5.33 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 93.3 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: FV Blue Moon

M. Cook

allons

allons

allons

course

True*
161
163
090
183
2.45
314
180
342
181
016
188
031
340
182
300
321
323



Date: 10/27/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5494

Time

Permit # OD 93-01 &amp; OD 93-02

10/26 1630 Begin 1<sup>st</sup> Loading SK  
 2100 Finish 1<sup>st</sup> Loading SK  
 0000 Begin 2<sup>nd</sup> Loading SK  
 10/27 0200 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

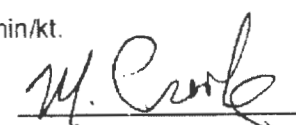
Volume Loaded: SK  
 Other  
 Total

185,000  
 0  
 185,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
									Metric	kts
0525	Depart Starkist		14°16.50' S	170°41.2' W	Calm	100 - Rain	29.52			
0620	Arrive Edge of Zone	# 1	14°22.57' S	170°38.66' W	SE - 7	100	29.53	E/SE - 1.5	8.2	
0631	Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	" "	"	"	" " X	7.5	
0640	Begin Discharge	# 3	14°24.55' S	170°37.37' W	" "	"	"	" "	8.2	
" 55		# 4	14°24.73' S	170°37.93' W	SE - 5	"	"	" "	8.4	
0710	Remarks:	# 5	14°24.84' S	170°37.8' W	" "	"	"	" "	7.7	
" 25		# 6	14°24.56' S	170°37.71' W	SE - 2	90	29.54	" "	8.8	
" 40		# 7	14°24.95' S	170°37.21' W	" "	"	"	" "	8.2	
" 55		# 8	14°24.60' S	170°37.90' W	" "	"	29.55	" "	8.8	
0810		# 9	14°25.08' S	170°37.42' W	" "	"	29.56	" "	8.2	
" 25		# 10	14°24.47' S	170°37.64' W	" "	"	"	" "	9.1	
" 40		# 11	14°24.71' S	170°37.08' W	" "	"	"	" "	8.4	
" 55		# 12	14°24.92' S	170°37.90' W	" "	"	29.55	" "	9.1	
0910		# 13	14°24.59' S	170°37.03' W	" "	"	"	" "	8.5	
" 25		# 14	14°24.86' S	170°38.12' W	Calm	80	29.54	" "	8.8	
" 40		# 15	14°24.28' S	170°36.93' W	East - 2	"	"	" "	8.6	
		# 16	14°2' S	170°3' W						
		# 17	14°2' S	170°3' W					15	
		# 18	14°2' S	170°3' W						
		# 19	14°2' S	170°3' W						
		# 20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W					20	
			14°2' S	170°3' W						
0947	Finish Discharge	# 16	14°24.34' S	170°37.52' W	SE - 2	80 %	29.53	E/SE - 1.5	9.0	
1002	Exit Discharge Zone	# 17	14°22.59' S	170°38.32' W	East - 3	"	"	" "	9.0	
1135	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center NWEnd of Discharge NW - SlowDischarge Pattern EllipseTotal Discharge Time: 187 mins. Average Speed During Discharge: 8.56 kts. Total Time Run 6.2 hr.Navigational Plot made: Yes Presence of Plume? NoTime and position of any floating material: NoneDischarge Rate: 115.6 Gallons/min/kt.Unusual Occurrences? None (Feeling of 1100 - 1 hr.)Notifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon



Date: 10/29/11 Sat.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5495

Time

Permit # OD 93-01 &amp; OD 93-02

10/28 1500 Begin 1<sup>st</sup> Loading SK  
 2130 Finish 1<sup>st</sup> Loading SK  
 / Begin 2<sup>nd</sup> Loading SK  
 / Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

182,500

0

182,500

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed
								Metric	kts
0515	Depart Starkist		14°16.50' S	170°41.2' W	Calm	100 Rain	29.50		
0613	Arrive Edge of Zone	#1	14°22.55' S	170°38.68' W	East-2	100	"	E+SE-1.5	8.5
0624	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	East-7	100 Rain	"	"	8.2
0633	Begin Discharge	#3	14°24.17' S	170°37.23' W	"	100	"	" X	8.2
" 48		#4	14°23.53' S	170°37.71' W	"	"	"	"	8.0
0703	Remarks:	#5	14°24.98' S	170°37.32' W	"	"	"	"	7.7
" 18		#6	14°23.22' S	170°37.15' W	"	"	"	"	8.2
" 33		#7	14°24.61' S	170°37.79' W	"	"	"	"	8.8
" 48		#8	14°24.28' S	170°36.94' W	East-10	"	"	"	8.0
0803		#9	14°23.56' S	170°37.74' W	"	"	"	"	8.7
" 18		#10	14°24.58' S	170°36.95' W	"	"	"	"	8.1
" 33		#11	14°23.26' S	170°37.56' W	"	"	"	"	8.3
" 48		#12	14°25.14' S	170°37.41' W	"	"	"	"	8.0
0903		#13	14°23.21' S	170°37.12' W	"	"	29.51	"	8.4
" 18		#14	14°24.88' S	170°37.82' W	"	"	"	"	9.0
" 33		#15	14°23.37' S	170°37.01' W	"	"	29.50	"	8.5
" 48		#16	14°24.46' S	170°37.76' W	"	"	29.49	"	9.0
		#17	14°2' S	170°3' W				"	15
		#18	14°2' S	170°3' W				"	
		#19	14°2' S	170°3' W				"	
		#20	14°2' S	170°3' W				"	
			14°2' S	170°3' W				"	
			14°2' S	170°3' W				"	20
			14°2' S	170°3' W				"	
0955	Finish Discharge	#17	14°25.16' S	170°37.72' W	East-10	100%	29.49	E+SE-1.5	8.8
1016	Exit Discharge Zone	#18	14°22.57' S	170°38.36' W	"	"	"	"	8.8
1110	Secure SK Dock		14°16.50' S	170°41.2' W				"	

Current Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseTotal Discharge Time: 202 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 5.9 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: NoneDischarge Rate: 107.5 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒

Master: F/V Blue Moon

M. Crook

Date: 10/31/11 Mon.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5496

Time

Permit # OD 93-01 &amp; OD 93-02

10/30 2000 Begin 1<sup>st</sup> Loading SK  
 2130 Finish 1<sup>st</sup> Loading SK  
 0000 Begin 2<sup>nd</sup> Loading SK  
 10/31 1200 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

165,000

0

165,000

		WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	
1250	Depart Starkist		14°16.50' S	170°41.2' W	N-7	90	29.45	Metric	kts	
1347	Arrive Edge of Zone	#1	14°22.53' S	170°38.68' W	" "	95	29.44	S+SE-2.0	8.5	
1358	Arrive Zone Center	#2	14°24.0' S	170°38.3' W	" "	"	29.43	" "	8.1	
1407	Begin Discharge	#3	14°22.93' S	170°38.25' W	" "	"	"	" X	8.7	
" 22		#4	14°23.33' S	170°38.67' W	" "	100	"	"	8.5	
" 37	Remarks:	#5	14°22.73' S	170°37.84' W	North-10	"	"	"	7.5	
" 52		#6	14°23.30' S	170°38.62' W	" "	"	29.42	"	9.0	
1507		#7	14°22.68' S	170°37.95' W	North-7	"	29.41	" 5	8.1	
" 22		#8	14°23.30' S	170°38.90' W	" "	"	"	"	8.7	
" 37		#9	14°22.81' S	170°37.63' W	NW-10	"	"	"	8.6	
" 52		#10	14°23.59' S	170°39.55' W	" "	"	"	"	8.3	
1607		#11	14°23.43' S	170°38.41' W	" "	100% Rain	"	"	8.9	
" 22		#12	14°23.57' S	170°39.49' W	" "	100	"	" 10	8.5	
" 37		#13	14°22.86' S	170°38.12' W	" "	"	"	"	8.8	
" 52		#14	14°23.80' S	170°39.58' W	" "	"	29.42	"	8.5	
1707		#15	14°2' S	170°3' W						
		#16	14°2' S	170°3' W						
		#17	14°2' S	170°3' W					15	
		#18	14°2' S	170°3' W						
		#19	14°2' S	170°3' W						
		#20	14°2' S	170°3' W						
			14°2' S	170°3' W						
			14°2' S	170°3' W					20	
			14°2' S	170°3' W						
1705	Finish Discharge	#15	14°23.24' S	170°38.29' W	NW-10	100%	29.42	S+SE to 2.0	9.8	
1709	Exit Discharge Zone	#16	14°22.59' S	170°38.24' W	" "	"	"	" "	9.5	
1805	Secure SK Dock		14°16.50' S	170°41.2' W						

Current Direction: At Center SouthEnd of Discharge SoutheastDischarge Pattern EllipseTotal Discharge Time: 178 mins. Average Speed During Discharge: 8.6 kts. Total Time Run 5.25 hr.Navigational Plot made: yes Presence of Plume? NoTime and position of any floating material: None Discharge Rate: 108 Gallons/min/kt.Unusual Occurrences? NoneNotifications made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook

119.32 S



170 00.23 W

170 06.82 W

170 03.41 W

01 October, 2011 - Sat.  
Voyage # 5482  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon

122.73 S

Disposal Zone Center:  
14°24.0' S x 170°38.8' W

2

15

17



Wind: Calm to East @ 3-5 kts.

122.73 \$

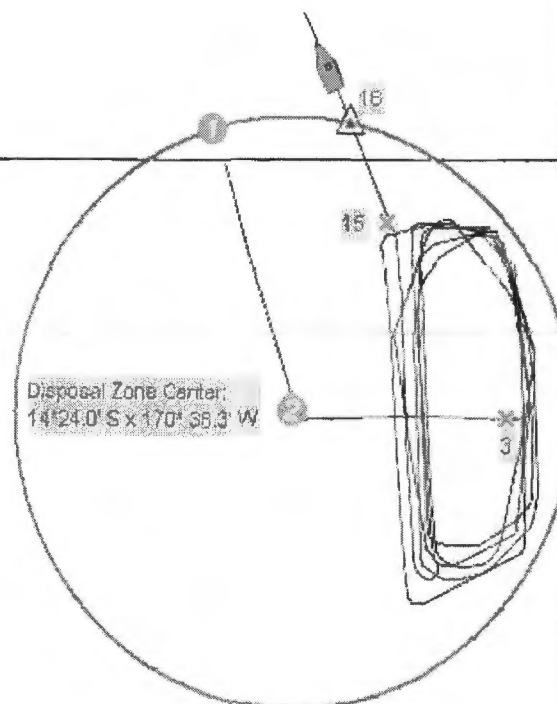
126.145

170.10.23 W

170 36.82 W

M. Cook

M. Crook, Master  
F/V Blue Moon



Wind East @ 10-12 kts.

N ▲

170 40.23 W

170 36.82 W

05 October, 2011 - Weds.  
Voyage # 5485  
Starkist Cargo, Trip #1

*M. Crook*

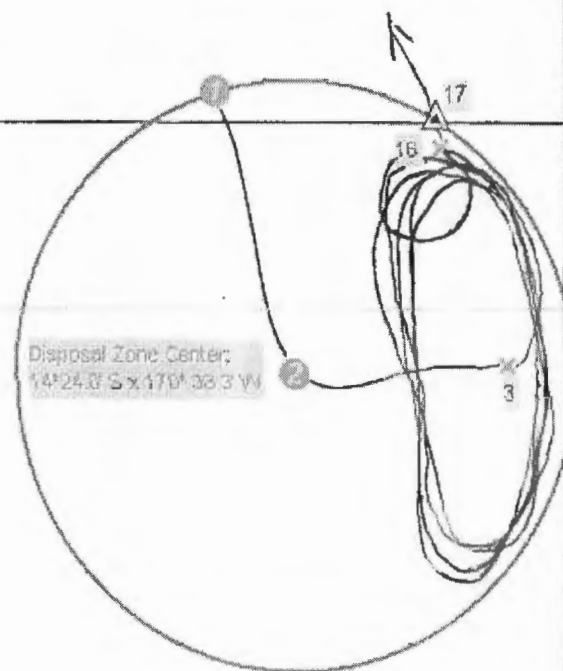
M. Crook, Master  
F/V Blue Moon

122.73 S

Disposal Zone Center:  
14°24.0' S x 170°30.3' W

Wind: Calm to East @ 3-5 kts

126.14 S



N ▲

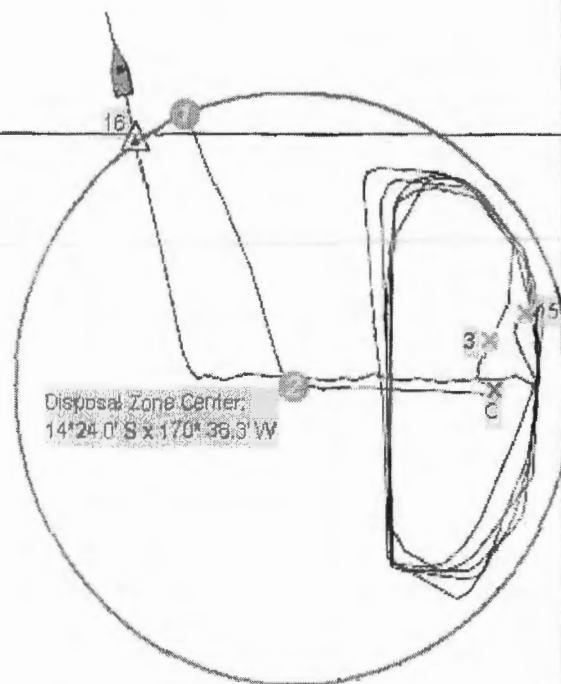
170 40.23 W

170 36.82 W

170 33.41 W

07 October, 2011 - Fri.  
Voyage # 5485  
Starkist Cargo, Trip #1  
\*Ocean Monitoring Conducted  
*M. Crook*  
M. Crook, Master  
F/V Blue Moon

14 22.73 S



Disposal Zone Center,  
14°24.0' S x 170°36.8' W

Wind: East @ 7-10 kts.

14 26.14 S

N ▲

170 40.23 W

170 36.82 W

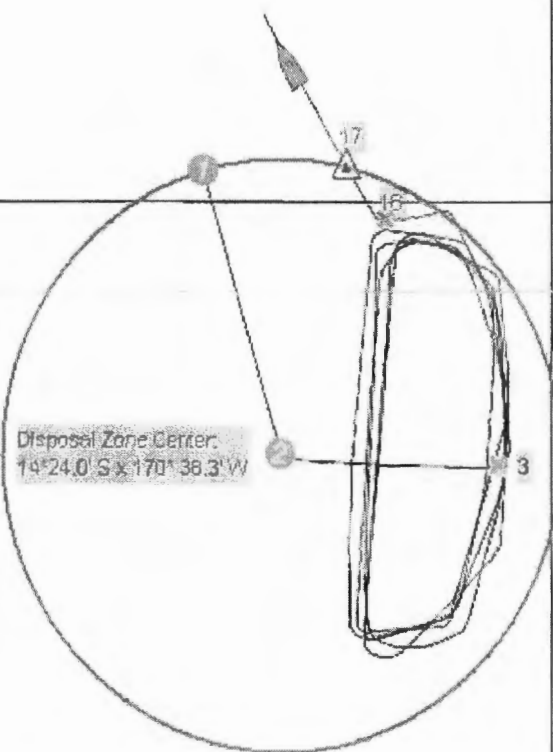
170 33.41 W

10 October, 2011 - Mon.  
Voyage # 5486  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

14 22.73 S



14 26.14 S



N ▲

170° 40.23' W

170° 36.82' W

170° 33.41' W

12 October, 2011 - Weds:  
Voyage # 5487  
Starlist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon

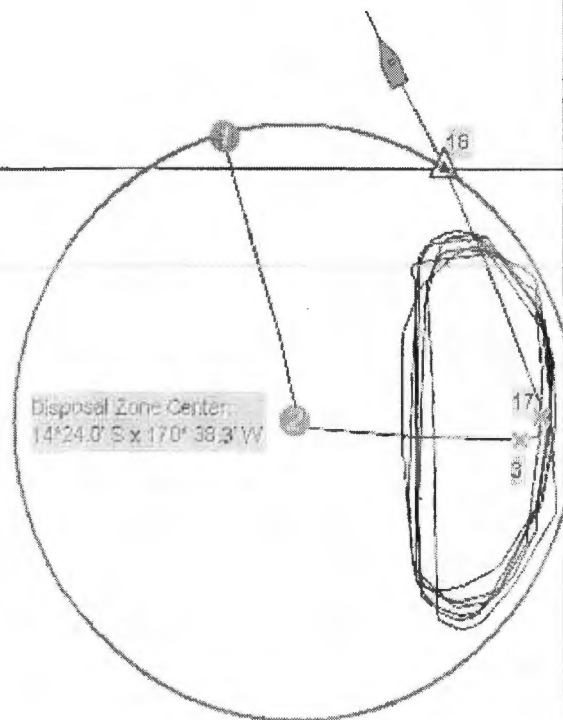
422.73 S

Disposal Zone Center:  
14°24.0' S x 170° 38.3' W

17°  
S

←  
Wind: East @ 15 - 20 kts.

426.14 S



N ▲

170 40.23 W

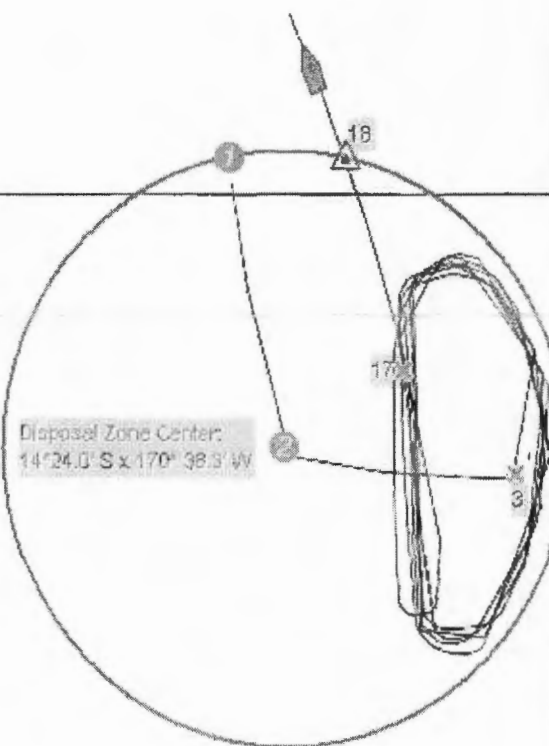
170 36.82 W

14 October, 2011 - Fri.  
Voyage # 5488  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FM Blue Moon

14 22.73 S



Disposal Zone Center:  
14°24.0' S x 170° 38.3' W



Wind: East @ 10 - 12 kts.

14 26.14 S

NA

170 40.23 W

170 36.32 W

16 October, 2011 - Sun;  
Voyage # 5489  
Starkist Cargo, Trip #1

*M. Crook*

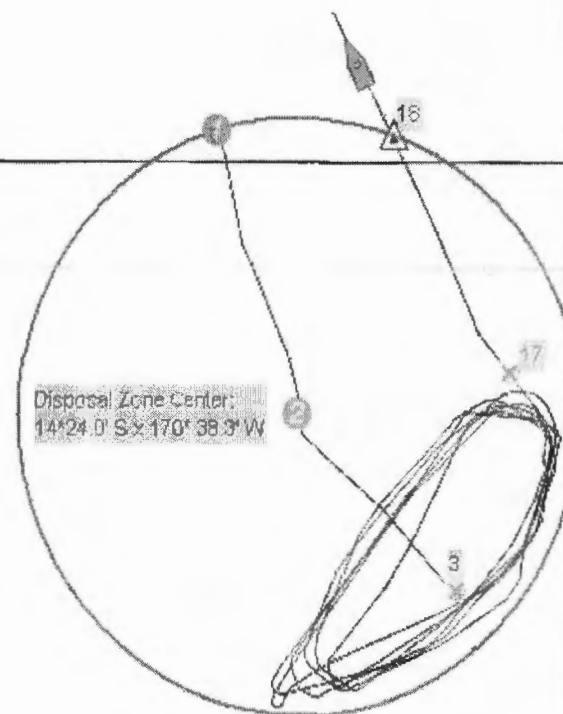
M. Crook, Master  
FV Blue Moon

14 22.73 S

Disposal Zone Center:  
14°24' 0" S x 170° 38' 3" W

Wind: ESE @ 12 - 15 kts.

14 26.14 S



N ▲

170 40.23 W

170 36.32 W

18 October, 2011 - Tues.

Voyage #5490

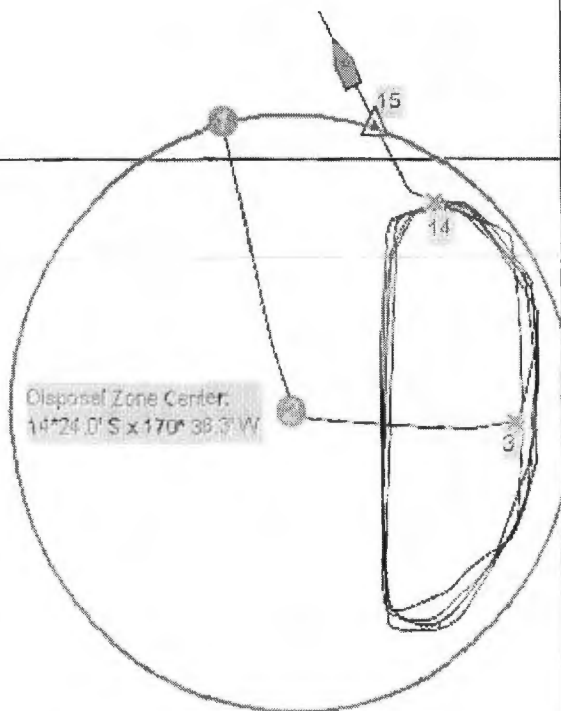
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master

FV Blue Moon

14 22.73 S



Disposal Zone Center:  
14°24.0' S x 170°38.0' W

Wind: East @ 10-12 kts.

14 26.14 S

N ▲

170 40.23 W

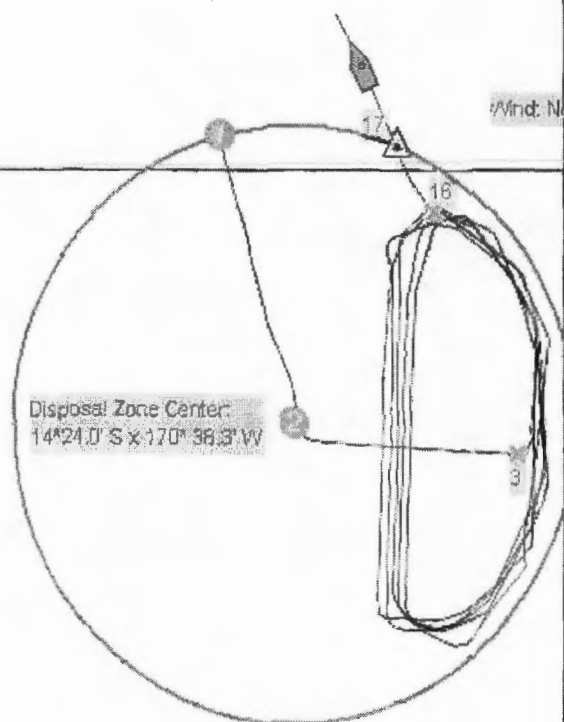
170 36.82 W

20 October, 2011 - Thurs.  
Voyage # 5491  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon

14 22.73 S



Wind: Northeast @ 7 - 10 kts.



N ▲

170 36.23 W

170 36.23 W

29 October, 2011 - Sat.  
Voyage # 5495  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FSV Blue Moon

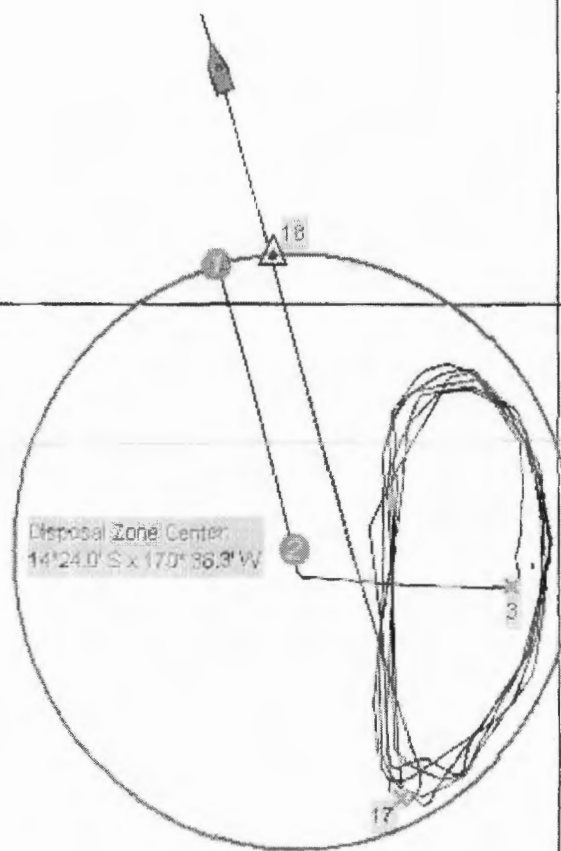
422.73 S

Disposal Zone Center:  
14°24.0' S x 170°36.3' W



Wind East @ 2 - 10 kts.

426.14 S



N ▲

170 39.30 W

170 36.51 W

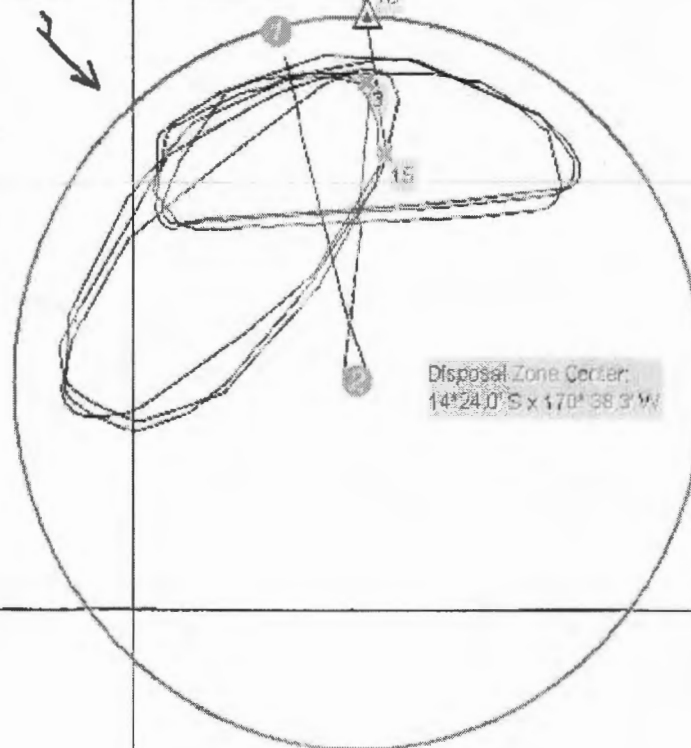
31 October, 2011 - Mon.  
Voyage # 5496  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

14 22.11 S

Wind: North/W @ 7 - 10 kts.



Disposal Zone Center:  
14°24.0' S x 170°38.3' W

14 24.00 S



# OCEAN DUMPING MONTHLY SUMMARY

F/V BLUE MOON

November, 2011

NUMBER OF TRIPS:	Starkist	Other	Joint	TOTAL:
	10	0	0	10

GALLONS-FOR THE MONTH:	Starkist	Other	Joint	TOTAL:
	1,489,500	0	0	1,489,500

GALLONS FOR SOLO TRIPS:	Starkist	Other
	1,489,500	0

RUNNING TIME ON TRIPS: 51.4 hours

DISCHARGE TIME ON TRIPS: 27.4 hrs.

AV. GPM DISCHARGE RATE: 101.3 gal/min/kt

AV. TRIP TIME: 5.14 hrs.

AV. PERCENTAGE OF VESSEL USED BY EACH CANNERY - BY GALLONAGE:

Starkist	Other
100.00%	0.00%

MASTER:  
M. Crook

*M. Crook*  
20 Nov, 2011

11/02/11 Weds.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5497

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

185,000

0

185,000

Gallons

Gallons

Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	NW-7	75	29.43	Metric	kts	True*
Arrive Edge of Zone	#1 14°22.56' S 170°38.69' W	West-10	"	29.45	SW-1.5	8.0	163
Arrive Zone Center	#2 14°24.0' S 170°38.3' W	"	70	"	"	8.2	156
Begin Discharge	#3 14°24.02' S 170°39.46' W	"	"	"	" " X	8.1	270
	#4 14°24.58' S 170°38.74' W	"	80	"	"	8.6	002
Remarks:	#5 14°22.84' S 170°38.98' W	"	"	29.46	"	7.1	223
	#6 14°24.92' S 170°39.31' W	"	70	"	"	7.7	138
	#7 14°23.79' S 170°38.84' W	"	"	"	"	8.8	358
	#8 14°23.68' S 170°39.52' W	"	"	"	"	8.2	193
	#9 14°24.63' S 170°38.81' W	"	60	29.47	"	9.0	002
	#10 14°23.22' S 170°39.23' W	"	"	"	"	7.9	212
	#11 14°25.04' S 170°39.03' W	"	"	"	"	8.6	057
	#12 14°23.33' S 170°38.74' W	"	"	29.48	"	9.3	358
	#13 14°24.74' S 170°39.46' W	"	"	"	"	8.5	139
	#14 14°23.42' S 170°38.70' W	"	"	"	"	9.7	003
	#15 14°2' S 170°3' W						
	#16 14°2' S 170°3' W						
	#17 14°2' S 170°3' W				15		
	#18 14°2' S 170°3' W						
	#19 14°2' S 170°3' W						
	#20 14°2' S 170°3' W						
	14°2' S 170°3' W						
	14°2' S 170°3' W				20		
	14°2' S 170°3' W						
Finish Discharge	#15 14°23.02' S 170°39.05' W	West-10	60%	29.48	SW-1.5	7.9	164
Exit Discharge Zone	#16 14°22.70' S 170°38.83' W	"	"			9.3	358
Secure SK Dock	14°16.50' S 170°41.2' W						

Location: At Center EastEnd of Discharge EastDischarge Pattern EllipseDischarge Time: 175 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 5.1 hr.Al Plot made: Yes Presence of Plume? NoPosition of any floating material: NoneDischarge Rate: 126 Gallons/min/kt.Occurrences? Nones made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Crook

11/04/11 Fri.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5498

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip #1 - X  
 Trip #2

Volume Loaded:

SK

Other

Total

192,500	Gallons
0	Gallons
192,500	Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course	True*
Depart Starkist		14°16.50' S	170°41.2' W	North-5	75	29.44	Metric	kts		
Arrive Edge of Zone	#1	14°22.57' S	170°38.70' W	N-7	80	29.48	SE-2.0	8.2	166	
Arrive Zone Center	#2	14°24.0 S	170°38.3 W	"	"	"	"	8.1	162	
Begin Discharge	#3	14°22.83' S	170°38.10' W	North-10	"	29.49	" " X	8.0	000	
	#4	14°23.44' S	170°38.98' W	"	90	"	"	7.5	092	
Remarks:	#5	14°22.95' S	170°37.27' W	North-15	80	"		6.8	339	
	#6	14°22.98' S	170°37.11' W	N-12	75	"		8.3	225	
	#7	14°23.18' S	170°37.43' W	"	"	"		8.1	008	
	#8	14°23.04' S	170°39.15' W	"	70	"		8.6	226	
	#9	14°23.28' S	170°37.67' W	N-15	65	"		8.6	089	
	#10	14°22.97' S	170°39.07' W	"	"	"		8.7	235	
	#11	14°23.37' S	170°37.79' W	"	"	"		8.6	090	
	#12	14°22.71' S	170°38.07' W	"	"	29.50		9.0	271	
	#13	14°23.24' S	170°37.87' W		60	"		8.5	093	
	#14	14°22.83' S	170°38.79' W		"	"		9.0	232	
	#15	14°23.40' S	170°37.87' W		50	"		8.9	086	
	#16	14°22.77' S	170°38.83' W					8.7	229	108.6
	#17	14°2 S	170°3 W					15		
	#18	14°2 S	170°3 W							
	#19	14°2 S	170°3 W							
	#20	14°2 S	170°3 W							
		14°2 S	170°3 W							
		14°2 S	170°3 W					20		
		14°2 S	170°3 W							
Finish Discharge	#17	14°22.89' S	170°38.99' W	North-12	50%	29.50	SE-2.0	9.1	228	
Exit Discharge Zone	#18	14°22.94' S	170°39.25' W	"	"	"	SE-1.5	8.6	343	
Secure SK Dock		14°16.50' S	170°41.2' W							

Action: At Center South End of Discharge South-Slow Discharge Pattern Ellipse  
 Discharge Time: 198 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 5.5 hr.

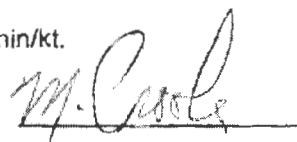
Plot made: yes Presence of Plume? No

Position of any floating material: None Discharge Rate: 116 Gallons/min/kt.

Occurrences? None

made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒

Master: FV Blue Moon



11/06/11 Sun.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5499

Permit # OD 93-01 &amp; OD 93-02

☐ Begin 1<sup>st</sup> Loading SK  
☐ Finish 1<sup>st</sup> Loading SK  
☐ Begin 2<sup>nd</sup> Loading SK  
☐ Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

105,000

0

105,000

Gallons

Gallons

Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
							Metric	kts	True*
Depart Starkist		14°16.50' S	170°41.2' W	Calm	90	29.50			
Arrive Edge of Zone	# 1	14°22.57' S	170°38.67' W	NE-7	75	29.51	E+SE-1.5	8.6	165
Arrive Zone Center	# 2	14°24.0 S	170°38.3 W	" "	"	"	" "	8.6	167
Begin Discharge	# 3	14°23.33' S	170°37.29' W	" "	"	"	" " X	8.6	050
	# 4	14°23.51' S	170°37.53' W	" "	70	"	" "	8.9	128
Remarks:	# 5	14°22.97' S	170°37.35' W	" "	60	"	" "	8.2	302
	# 6	14°23.96' S	170°37.28' W	" "	"	"	" "	8.7	132
	# 7	14°22.77' S	170°37.64' W	" "	"	"	" "	7.9	240
	# 8	14°23.80' S	170°36.88' W	" "	70	"	" "	8.6	319
	# 9	14°23.30' S	170°37.83' W	NE-10	"	"	" "	8.5	136
	# 10	14°23.58' S	170°36.99' W	" "	"	"	" "	8.9	341
	# 11	14°23.61' S	170°37.51' W	" "	60	29.52	" "	9.1	131
	# 12	14°23.22' S	170°37.17' W	" "	"	"	" "	8.9	303
	# 13	14°24.05' S	170°37.29' W	" "	"	"	" "	9.0	127
	# 14	14°22.79' S	170°37.67' W	" "	"	"	" "	9.1	291
	# 15	14°2 S	170°3 W	" "	"	"	" "	"	"
	# 16	14°2 S	170°3 W	" "	"	"	" "	"	"
	# 17	14°2 S	170°3 W	" "	"	"	" "	15	"
	# 18	14°2 S	170°3 W	" "	"	"	" "	"	"
	# 19	14°2 S	170°3 W	" "	"	"	" "	"	"
	# 20	14°2 S	170°3 W	" "	"	"	" "	"	"
		14°2 S	170°3 W	" "	"	"	" "	20	"
		14°2 S	170°3 W	" "	"	"	" "	"	"
Finish Discharge	# 15	14°22.73' S	170°37.90' W	NE-10	60%	29.52	E+SE-1.5	9.2	288
Exit Discharge Zone	# 16	14°22.57' S	170°38.09' W	" "	" "	"	" "	8.8	331
Secure SK Dock		14°16.50' S	170°41.2' W	" "	" "	"	" "	"	"

Direction: At Center Southwest End of Discharge SW Discharge Pattern Ellipse  
 Discharge Time: 167 mins. Average Speed During Discharge: 8.7 kts. Total Time Run 4.9 hr.

Plot made: yes Presence of Plume? No

Position of any floating material: None

Occurrences? None

Made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒

Discharge Rate: 72.3 Gallons/min/kt.

Master: F/V Blue Moon

M. Crook

11/08/11 Tues.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5500

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

115,000

0

115,000

Gallons

Gallons

Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist		14°16.50' S	170°41.2' W	Calm	100	29.60			
Arrive Edge of Zone	# 1	14°22.53' S	170°38.69' W	East-10	"	"	East-1.0	8.8	158
Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	"	"	"	"	8.9	160
Begin Discharge	# 3	14°24.15' S	170°37.19' W	"	"	"	"	8.5	090
	# 4	14°23.37' S	170°37.71' W	"	"	"	"	8.6	180
Remarks:	# 5	14°24.61' S	170°37.00' W	"	"	"	"	8.1	016
	# 6	14°23.18' S	170°37.65' W	"	"	29.61	"	8.0	185
	# 7	14°24.93' S	170°37.27' W	"	"	"	"	8.2	030°
	# 8	14°23.08' S	170°37.30' W	"	"	"	"	8.3	267°
	# 9	14°24.55' S	170°37.16' W	"	"	"	"	9.4	178
	# 10	14°23.71' S	170°36.95' W	"	"	"	"	8.8	000
	# 11	14°24.36' S	170°37.65' W	"	"	"	"	9.3	179
	# 12	14°2' S	170°3' W	"	"	"	"	10	
	# 13	14°2' S	170°3' W	"	"	"	"		
	# 14	14°2' S	170°3' W	"	"	"	"		
	# 15	14°2' S	170°3' W	"	"	"	"		
	# 16	14°2' S	170°3' W	"	"	"	"		
	# 17	14°2' S	170°3' W	"	"	"	"	15	
	# 18	14°2' S	170°3' W	"	"	"	"		
	# 19	14°2' S	170°3' W	"	"	"	"		
	# 20	14°2' S	170°3' W	"	"	"	"		
		14°2' S	170°3' W	"	"	"	"	20	
		14°2' S	170°3' W	"	"	"	"		
Finish Discharge	# 12	14°24.68' S	170°37.56' W	East-10	High 100	29.61	East-1.0	8.6	337
Exit Discharge Zone	# 13	14°22.57' S	170°38.19' W	"	"	"	"	9.3	339
Secure SK Dock		14°16.50' S	170°41.2' W	"	"	"	"		

Direction: At Center WestEnd of Discharge West-SlowDischarge Pattern EllipseDischarge Time: 12.9 mins. Average Speed During Discharge: 8.6 kts. Total Time Run 4.5 hr.Initial Plot made: YPS Presence of Plume? NoPosition of any floating material: None Discharge Rate: 104 Gallons/min/kt.Occurrences? NoneAs made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Paul

11/10/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5501

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

177,500

6

177,500

Gallons

Gallons

Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist		14°16.50' S	170°41.2' W	Calm	100	29.53	Metric	kts	True*
Arrive Edge of Zone	# 1	14°22.55' S	170°38.68' W	NE-10	"	"	E/NE-1.0	7.8	163
Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	"	"	"	"	8.2	167
Begin Discharge	# 3	14°23.39' S	170°37.18' W	"	"	"	"	7.5	338
	# 4	14°23.41' S	170°37.81' W	"	"	29.54	"	8.2	142
Remarks: Monitoring	# 5	14°23.53' S	170°37.00' W	"	"	"	"	8.2	338
Control Samples	# 6	14°23.49' S	170°37.80' W	"	"	"	"	8.5	147
drawn at - 0635	# 7	14°23.81' S	170°36.97' W	"	"	"	"	8.6	348
Position: 0	# 8	14°22.95' S	170°37.98' W	"	"	"	"	8.3	143
14°23.51' S x	# 9	14°24.34' S	170°36.92' W	"	"	"	"	8.2	005
170°37.24' W	# 10	14°22.96' S	170°38.01' W	"	"	"	"	8.3	166
	# 11	14°24.16' S	170°36.93' W	"	"	"	"	8.3	341
	# 12	14°22.81' S	170°37.99' W	"	"	"	"	8.4	155
	# 13	14°24.14' S	170°37.01' W	"	90	"	"	8.7	008
	# 14	14°22.75' S	170°38.08' W	"	"	"	"	7.8	194
	# 15	14°23.79' S	170°36.85' W	"	"	"	"	9.1	343
	# 16	14°23.18' S	170°38.02' W	"	"	"	"	8.9	162
	# 17	14°2' S	170°3' W	"	"	"	"	15	
	# 18	14°2' S	170°3' W	"	"	"	"		
	# 19	14°2' S	170°3' W	"	"	"	"		
	# 20	14°2' S	170°3' W	"	"	"	"		
		14°2' S	170°3' W	"	"	"	"		
		14°2' S	170°3' W	"	"	"	"	20	
		14°2' S	170°3' W	"	"	"	"		
Finish Discharge	# 17	14°24.22' S	170°37.19' W	NE-10	90	29.54	E+NE-1.0	9.0	048
Exit Discharge Zone	# 18	14°22.59' S	170°38.73' W	"	"	"	"	9.6	337
Secure SK Dock		14°16.50' S	170°41.2' W	"	"	"	"		

Location: At Center SW

End of Discharge SW slow

Discharge Pattern Ellipse

Discharge Time: 207 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 7-1 hr.

Al Plot made: yes Presence of Plume? No

Position of any floating material: None

Discharge Rate: 102 Gallons/min/kt.

Occurrences? None

As made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Crook

11/12/11 Sat.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5502

Permit # OD 93-01 &amp; OD 93-02

Volume Loaded:

SK

Other

Total

182,000

0

182,000

Gallons

Gallons

Gallons

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip #1 - X

Trip #2

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist		14°16.50' S	170°41.2' W	Calm	100	29.53	Metric	kts	True*
Arrive Edge of Zone	#1	14°22.58' S	170°38.66' W	West-3	"	29.54	mix-1.0	8.6	161
Arrive Zone Center	#2	14°24.0 S	170°38.3 W	West-5	"	"	"	8.3	164
Begin Discharge	#3	14°24.17 S	170°39.36' W	"	"	"	"	8.2	270
	#4	14°24.59' S	170°38.70' W	"	"	29.55	"	8.4	002
Remarks:	#5	14°23.18' S	170°39.25' W	"	"	29.56	"	7.6	249
	#6	14°24.98' S	170°39.30' W	"	"	"	"	8.6	147
	#7	14°23.64' S	170°38.78' W	"	"	"	"	8.6	000
	#8	14°24.16' S	170°39.51' W	NW-5	"	"	"	8.5	186
	#9	14°25.00' S	170°38.53' W	West-3	"	"	"	8.7	357
	#10	14°23.10' S	170°39.11' W	West-2	"	"	"	8.4	254
	#11	14°24.79' S	170°39.38' W	"	"	"	"	9.1	130
	#12	14°23.63' S	170°38.61' W	NW-5	"	29.57	"	9.3	358
	#13	14°24.54' S	170°39.41' W	NW-7	100-Rain	"	"	8.8	181
	#14	14°24.13' S	170°38.62' W	"	"	"	"	9.2	003
	#15	14°23.81' S	170°39.35' W	"	"	29.58	"	8.7	180
	#16	14°2 S	170°3 W						
	#17	14°2 S	170°3 W						
	#18	14°2 S	170°3 W						
	#19	14°2 S	170°3 W						
	#20	14°2 S	170°3 W						
		14°2 S	170°3 W						
		14°2 S	170°3 W						
		14°2 S	170°3 W						
Finish Discharge	#16	14°24.08' S	170°39.13' W	NW-5	RAIN-100%	29.58	mixed-1.0	8.1	347
Exit Discharge Zone	#17	14°22.97' S	170°39.27' W	NW-7	100	"	"	9.3	346
Secure SK Dock		14°16.50' S	170°41.2' W						

Location: At Center EastEnd of Discharge SoutheastDischarge Pattern EllipseDischarge Time: 185 mins. Average Speed During Discharge: 8.6 kts. Total Time Run 5.33 hr.Plot made: Yes Presence of Plume? NoPosition of any floating material: NoneCircumstances? NoneMade: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓Discharge Rate: 114.4 Gallons/min/kt.

Master: F/V Blue Moon

M. Crook

11/17/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5504

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

182,500	Gallons
0	Gallons
182,500	Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist		14°16.50' S	170°41.2' W	Calm	60%	29.59	Metric	kts	True*
Arrive Edge of Zone	# 1	14°22.52' S	170°38.72' W	SE-3	50	29.56	mixed to 1.0	8.0	158
Arrive Zone Center	# 2	14°24.0' S	170°38.3' W	" "	"	"	" "	8.3	164
Begin Discharge	# 3	14°24.62' S	170°37.32' W	SE-2	40	29.55	" " X	8.1	135
	# 4	14°24.46' S	170°37.54' W	SE-3	"	29.54	" "	8.4	218
Remarks:	# 5	14°24.36' S	170°36.95' W	" "	"	"	" "	8.5	005
	# 6	14°24.98' S	170°38.10' W	" "	"	29.53	" "	8.8	217
	# 7	14°24.03' S	170°37.36' W	" "	"	"	" "	8.2	223
	# 8	14°25.26' S	170°37.70' W	" "	"	"	" "	8.0	028
	# 9	14°24.25' S	170°37.51' W	SE-2	"	29.52	" "	8.6	219
	# 10	14°24.87' S	170°37.31' W	" "	35	"	" "	8.7	034
	# 11	14°24.68' S	170°37.80' W	" "	"	29.51	" "	8.9	201
	# 12	14°25.23' S	170°37.81' W	" "	"	"	" "	8.8	059
	# 13	14°24.22' S	170°37.40' W	" "	"	29.50	" "	9.1	221
	# 14	14°24.38' S	170°36.97' W	" "	30	"	" "	8.9	018
	# 15	14°24.70' S	170°37.77' W	" "	"	"	" "	8.8	037
	# 16	14°2' S	170°3' W						
	# 17	14°2' S	170°3' W					15	
	# 18	14°2' S	170°3' W						
	# 19	14°2' S	170°3' W						
	# 20	14°2' S	170°3' W						
		14°2' S	170°3' W						
		14°2' S	170°3' W					20	
		14°2' S	170°3' W						
Finish Discharge	# 16	14°24.12' S	170°37.31' W	SE-2	30%	29.50	mixed to 1.0	8.9	016
Exit Discharge Zone	# 17	14°22.66' S	170°37.77' W	" "	"	"	" "	9.4	326
Secure SK Dock		14°16.50' S	170°41.2' W						

Direction: At Center NW End of Discharge NW Discharge Pattern Elliptical  
 Discharge Time: 187 mins. Average Speed During Discharge: 8.6 kts. Total Time Run 5.5 hr.

Final Plot made: yes Presence of Plume? No

Position of any floating material: \_\_\_\_\_ Discharge Rate: 113.5 Gallons/min/kt.

Occurrences? 1400 - Large piece of Flotsam @ 14°25.37'S x 170°38.62' W

Cons made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon





11/20/11 Sun.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5506

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded: SK

Other

Total

17,500

0

17,500

Gallons

Gallons

Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course	True*
Depart Starkist	14°16.50' S 170°41.2' W	SE-7	100-RAIN	29.59	Metric	kts		
Arrive Edge of Zone	#1 14°22.55' S 170°38.68' W	SE-10	100	29.60	SE-1.0	8.7	160	
Arrive Zone Center	#2 14°24.0' S 170°38.3' W	SE-12	"	"	"	8.7	163	
Begin Discharge	#3 14°24.66' S 170°37.33' W	"	"	"	"	7.6	130	
	#4 14°24.72' S 170°38.00' W	"	"	"	"	9.4	220	
Remarks:	#5 14°24.43' S 170°37.04' W	"	90	"	"	8.5	011	
	#6 14°25.20' S 170°38.08' W	"	"	"	"	8.1	134	
	#7 14°23.97' S 170°37.06' W	"	100	"	"	8.4	305	
	#8 14°2' S 170°3' W							
	#9 14°2' S 170°3' W							
	#10 14°2' S 170°3' W							
	#11 14°2' S 170°3' W							
	#12 14°2' S 170°3' W					10		
	#13 14°2' S 170°3' W							
	#14 14°2' S 170°3' W							
	#15 14°2' S 170°3' W							
	#16 14°2' S 170°3' W							
	#17 14°2' S 170°3' W					15		
	#18 14°2' S 170°3' W							
	#19 14°2' S 170°3' W							
	#20 14°2' S 170°3' W							
	14°2' S 170°3' W							
	14°2' S 170°3' W					20		
	14°2' S 170°3' W							
Finish Discharge	#8 14°23.97' S 170°37.28' W	SE-12	100%	29.60	SE-1.0	8.5	216	
Exit Discharge Zone	#9 14°22.55' S 170°38.46' W	"	"	"	"	9.2	328	
Secure SK Dock	14°16.50' S 170°41.2' W							

Direction: At Center NWEnd of Discharge NWDischarge Pattern EllipseDischarge Time: 62 mins. Average Speed During Discharge: 8.4 kts. Total Time Run 3.5 hr.Chart Plot made: Yes Presence of Plume? NoPosition of any floating material: NoneOccurrences? NoneIns made: A.S.P.A. ☒ U.S.C.G.M.S.D. ☒Discharge Rate: 33.6 Gallons/min/kt.

Master: F/V Blue Moon

M. Crook

170 39.30 W

170 36.51 W

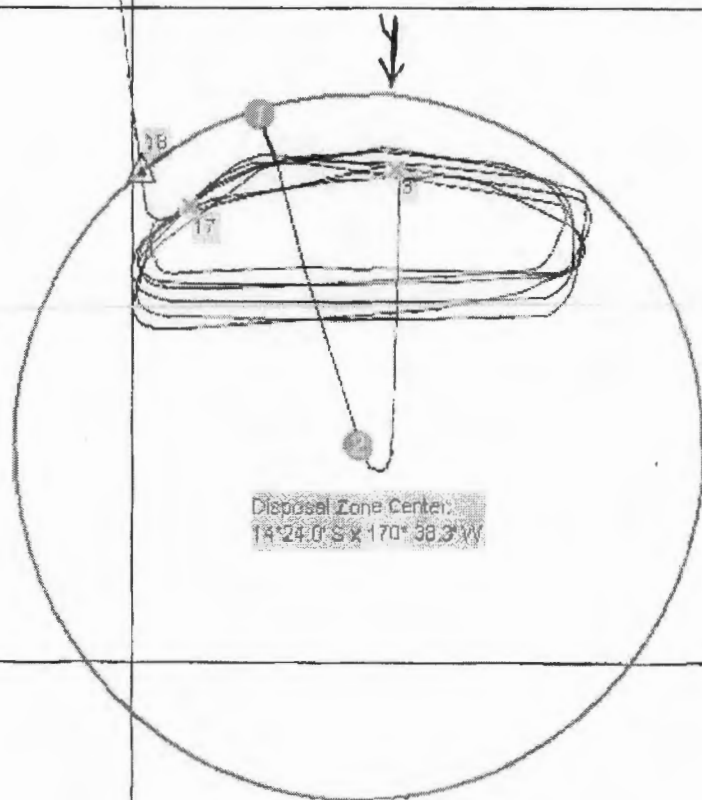
170 33.72 W

04 November, 2011 - Fri.  
Voyage # 5496  
StarKist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

Wind: North @ 7-10 kts.



170 39.30 W

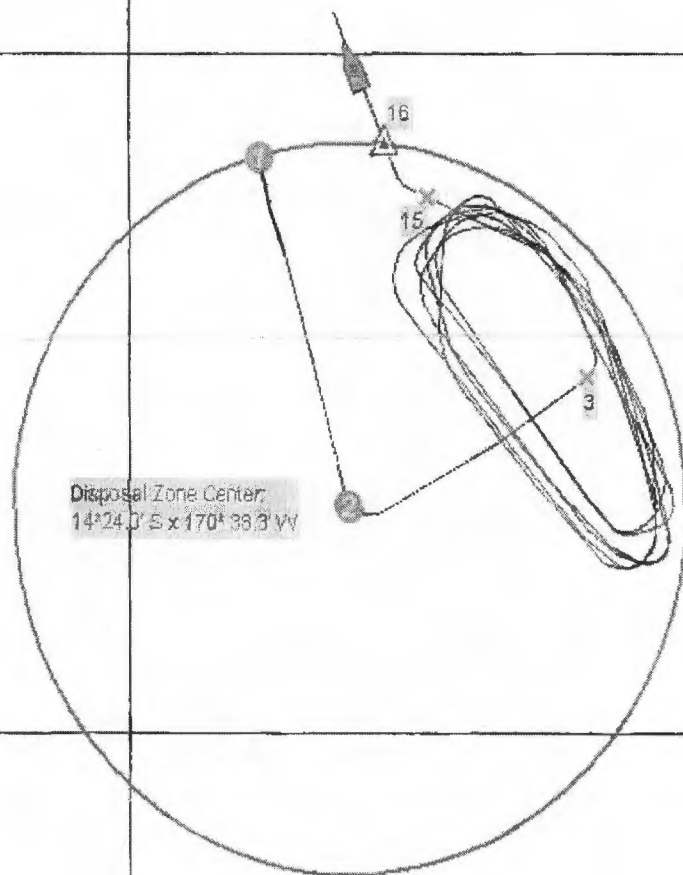
170 36.51 W

170 33.72 W

08 November, 2011 - Sun  
Voyage # 5499  
Stanisl Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon



Disposal Zone Center:  
14°24'0" S x 170°38'3" W



Wind: Northeast @ 7 - 10 kts

170 33.72 W

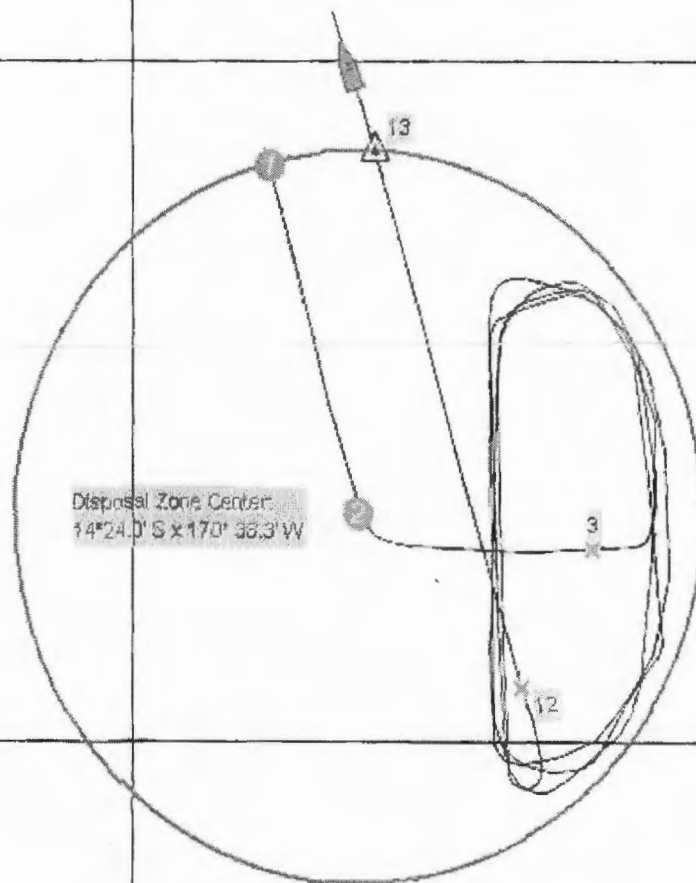
08 November, 2011 - Tues.  
Voyage # 5500  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

170 36.51 W

170 39.30 W



Wind East @ 10 kts.

170 39.30 W

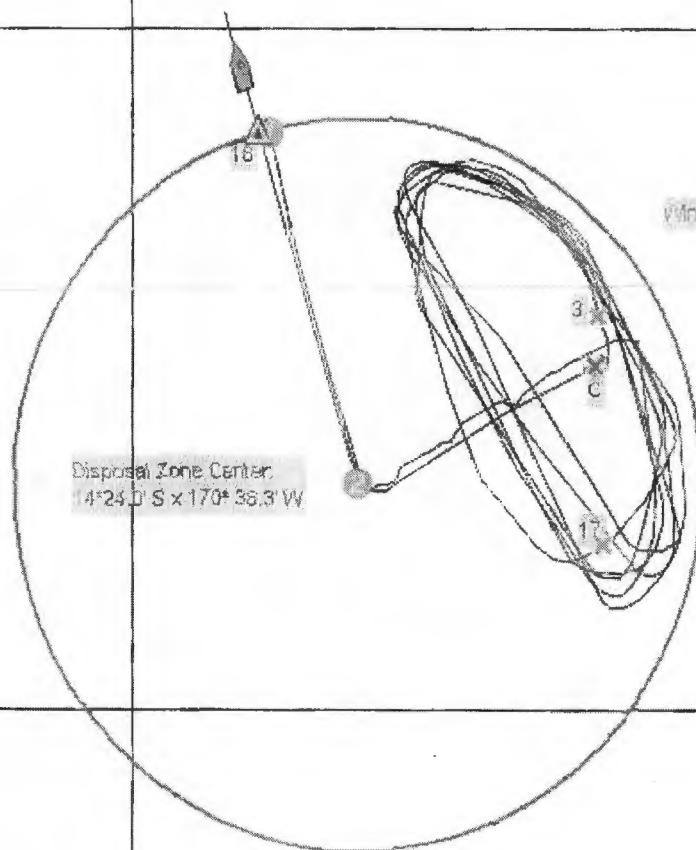
170 36.51 W

170 33.72 W

10 November 2011 - Thurs.  
Voyage # 6501  
Starlist Cargo, Trip #1  
\*\*Ocean Monitoring Conducted

*M. Crook*

M. Crook, Master  
F/V Blue Moon



12 November, 2011 - Sat.  
Voyage # 6502  
Starkist Cargo, Trito #1

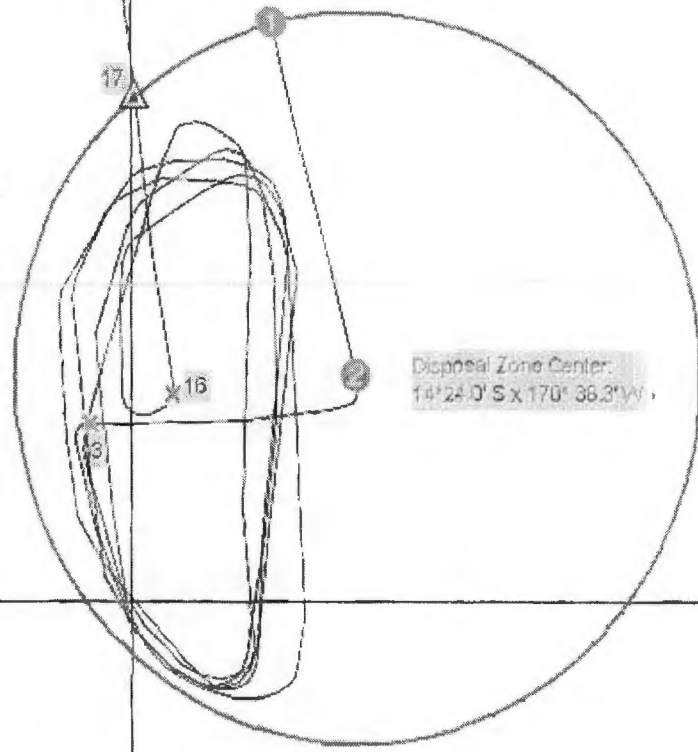
*M. Crook*

M. Crook, Master  
F/V Blue Moon

70 36.51 W

70 39.30 W

Wind: West/NW @ 2-7 kts.



Disposal Zone Center:  
14°24.0' S x 170°36.3' W

15 November, 2011 - Tues.  
Voyage # 5503  
Starlist Cargo, Trip #1

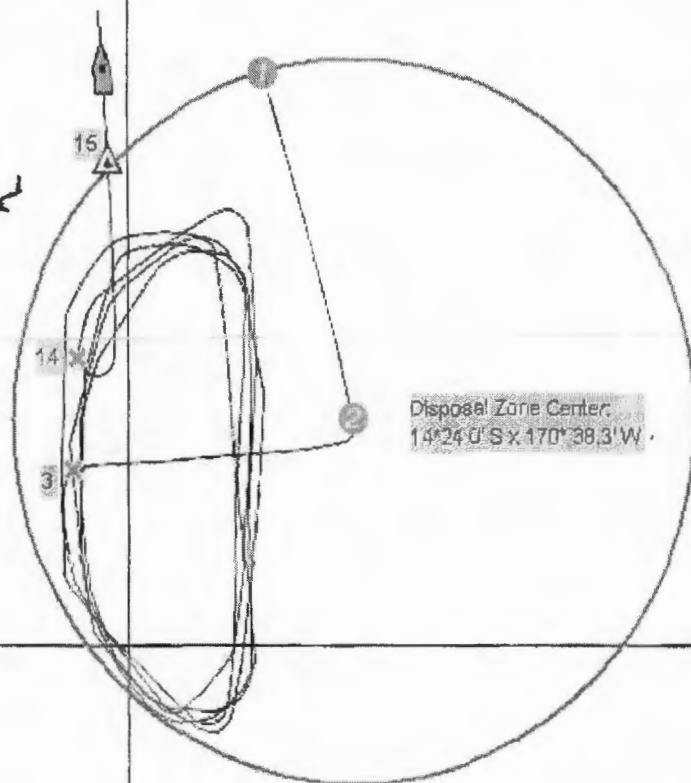
*M. Crook*

M. Crook, Master  
F/V Blue Moon

170 36.51 W

170 39.30 W

Wind: Calm to variable @ < 5 kts.



Disposal Zone Center:  
14°24'0" S x 170°38.3' W

170 33.72 W

170 36.51 W

170 39.30 W

17 November, 2011 - Thurs.  
Voyage # 55D4  
Starkist Cargo, Trip #1

M. Crook

M. Crook, Master  
FV Blue Moon

Disposal Zone Center:  
14°24.0'S x 170°38.3'W

Wind: Calm to SE @ 2 - 3 kts.



170° 39.30' W

170° 36.51' W

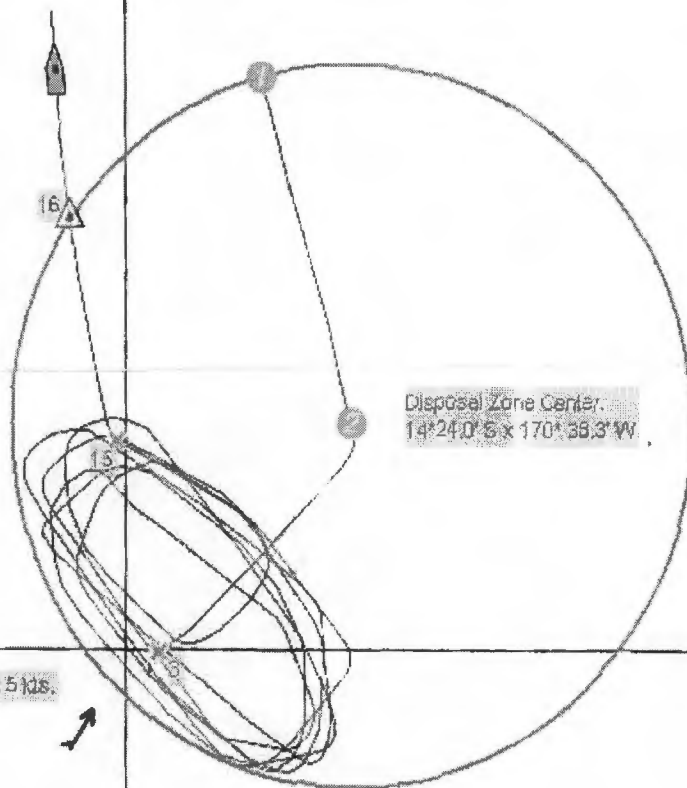
19 November, 2011 - Sat.  
Voyage # 5505  
Sterkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

Disposal Zone Center:  
14° 24.0' S x 170° 38.3' W

Wind: Calm to SW @ < 5 kts.



170 39.30 W

170 36.51 W

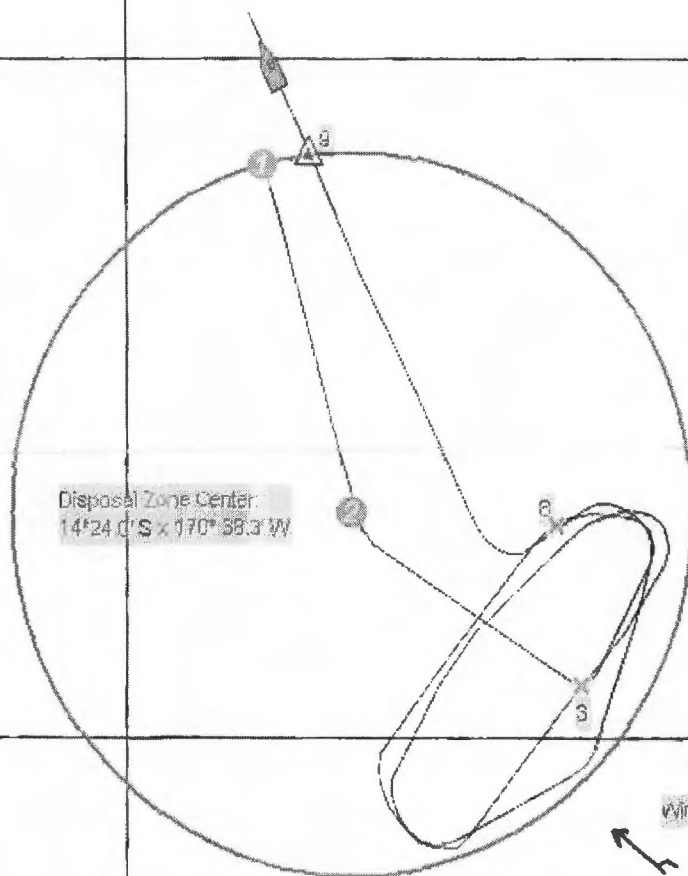
20 November, 2011 - Sun.  
Voyage # 5508  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

Disposal Zone Center:  
14°24'0"S x 170°38.3'W

Wind: Southeast @ 10 - 12 kts.



# OCEAN DUMPING MONTHLY SUMMARY

F/V BLUE MOON

December, 2011

NUMBER OF TRIPS:	Starkist	Other	Joint	TOTAL:
	7	0	0	7

GALLONS-FOR THE MONTH:	Starkist	Other	Joint	TOTAL:
	1,211,500	0	0	1,211,500

GALLONS FOR SOLO TRIPS:	Starkist	Other
	1,211,500	0

RUNNING TIME ON TRIPS: 36.7 hours

DISCHARGE TIME ON TRIPS: 20.7 hrs.

AV. GPM DISCHARGE RATE: 105.8 gal/min/kt

AV. TRIP TIME: 5.24 hrs.

AV. PERCENTAGE OF VESSEL USED BY EACH CANNERY - BY GALLONAGE:

Starkist	Other
100.00%	0.00%

MASTER:

M. Crook

M. Crook 1/03/2012

12/06/11 Tues.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5507

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

130,000	Gallons
0	Gallons
130,000	Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	Calm	90	29.52	Metric	kts	True*
Arrive Edge of Zone #1	14°22.59' S 170°38.66' W	NE-10	"	29.53	E+SE-1.5	8.7	162
Arrive Zone Center #2	14°24.0' S 170°38.3' W	"	"	29.54	"	8.9	161
Begin Discharge #3	14°23.53' S 170°37.31' W	"	"	"	" X	9.6	045
#4	14°23.48' S 170°37.75' W	"	"	29.55	"	9.1	137
Remarks: #5	14°23.27' S 170°37.07' W	"	80	"	"	9.1	315
#6	14°23.65' S 170°37.65' W	"	"	29.56	"	9.2	137
#7	14°23.06' S 170°37.28' W	"	"	"	" 5	9.5	325
#8	14°23.79' S 170°37.63' W	"	"	29.55	"	9.1	129
#9	14°22.93' S 170°37.39' W	"	"	29.54	"	9.2	302
#10	14°23.86' S 170°37.48' W	"	70	"	E+SE to 1.0	9.6	136
#11	14°22.71' S 170°37.72' W	NE-7	"	"	"	8.9	296
#12	14°24.05' S 170°36.85' W	NE-7	80	"	" 10	8.7	315
#13	14°23.15' S 170°38.08' W	NE-5	70	"	"	9.2	187
#14	14°2' S 170°3' W						
#15	14°2' S 170°3' W						
#16	14°2' S 170°3' W						
#17	14°2' S 170°3' W				15		
#18	14°2' S 170°3' W						
#19	14°2' S 170°3' W						
#20	14°2' S 170°3' W						
	14°2' S 170°3' W						
	14°2' S 170°3' W				20		
	14°2' S 170°3' W						
Finish Discharge #14	14°23.50' S 170°37.80' W	NE-5	70%	29.54	E+SE to 1.0	8.9	261
Exit Discharge Zone #15	14°22.57' S 170°38.19' W	"	"	"	"	10.2	343
Secure SK Dock	14°16.50' S 170°41.2' W						

Direction: At Center SWEnd of Discharge SlackDischarge Pattern EllipseDischarge Time: 155 mins. Average Speed During Discharge: 9.13 kts. Total Time Run 4.75 hr.Visual Plot made: yes Presence of Plume? NoPosition of any floating material: NoneOccurrences? NoneIns made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓Discharge Rate: 92.2 Gallons/min/kt.

Master: F/V Blue Moon

M. Crook

170° 39.60' W

170° 36.80' W

06 December, 2011 - Tues.  
Voyage # 5507  
Sterkist Cargo, Trip #1

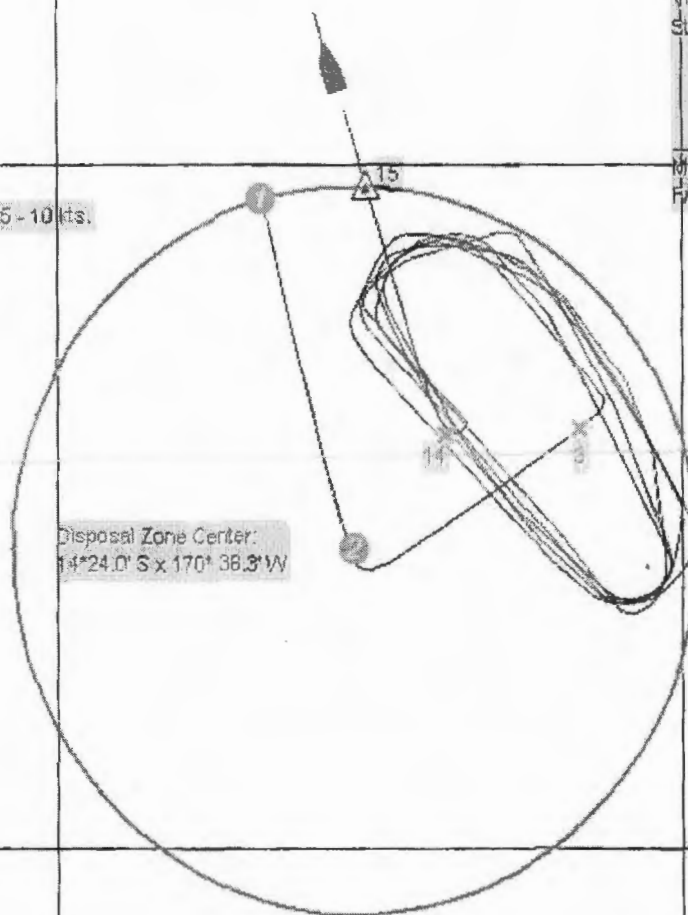
*M. Crook*

M: Crook, Master  
F/V Blue Moon

Wind: Northeast @ 5 - 10 kts.



Disposal Zone Center:  
14° 24.0' S x 170° 38.3' W



12/08/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5508

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

160,000

0

160,000

Gallons

Gallons

Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	East-7	80	29.58	Metric	kts	True*
Arrive Edge of Zone #1	14°22.58' S 170°38.67' W	East-10	70	29.59	E-SE to 1.5	8.8	162
Arrive Zone Center #2	14°24.0' S 170°38.3' W	East-12	80	"	" " X	8.9	165
Begin Discharge #3	14°24.17' S 170°37.19' W	" "	50	"	" " X	7.8	129
#4	14°23.35' S 170°37.77' W	" "	"	"	" "	8.9	188
Remarks: Ocean #5	14°24.66' S 170°37.68' W	East-15	"	"	" "	8.6	039
Monitoring #6	14°23.02' S 170°37.80' W	" "	"	"	" "	8.3	184
Conducted #7	14°24.79' S 170°37.30' W	" "	"	"	" "	8.2	073
Control Samples #8	14°22.97' S 170°37.75' W	" "	60	"	" "	8.5	186
Drawn: 0626hrs #9	14°24.99' S 170°37.61' W	" "	"	"	" "	9.2	171
#10	14°23.06' S 170°37.39' W	" "	"	"	" "	9.8	286
Posn: 14°24.095x #11	14°24.65' S 170°37.60' W	" "	"	"	" "	9.4	134
170°37.17' W #12	14°22.95' S 170°37.46' W	" "	"	"	" "	9.2	269
#13	14°24.60' S 170°37.74' W	East-12	70-Rain	29.60	" "	9.7	172
#14	14°2' S 170°3' W						
#15	14°2' S 170°3' W						
#16	14°2' S 170°3' W						
#17	14°2' S 170°3' W					15	
#18	14°2' S 170°3' W						
#19	14°2' S 170°3' W						
#20	14°2' S 170°3' W						
	14°2' S 170°3' W						
	14°2' S 170°3' W					20	
	14°2' S 170°3' W						
Finish Discharge #14	14°23.22' S 170°37.16' W	East-12	60	29.60	E-SE to 1.5	9.9	338
Exit Discharge Zone #15	14°22.66' S 170°38.87' W	East-15	"	"	" "	10.0	335°
Secure SK Dock	14°16.50' S 170°41.2' W						

Direction: At Center West End of Discharge West Discharge Pattern Ellipse  
 Discharge Time: 165 mins. Average Speed During Discharge: 9.0 kts. Total Time Run 6.2 hr.

Visual Plot made: yes Presence of Plume? No

Position of any floating material: None Discharge Rate: 107.7 Gallons/min/kt.

Occurrences? None

Cons made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook

170 39.60 W

170 36.80 W

170 34.00 W

08 December, 2011 - Thurs.

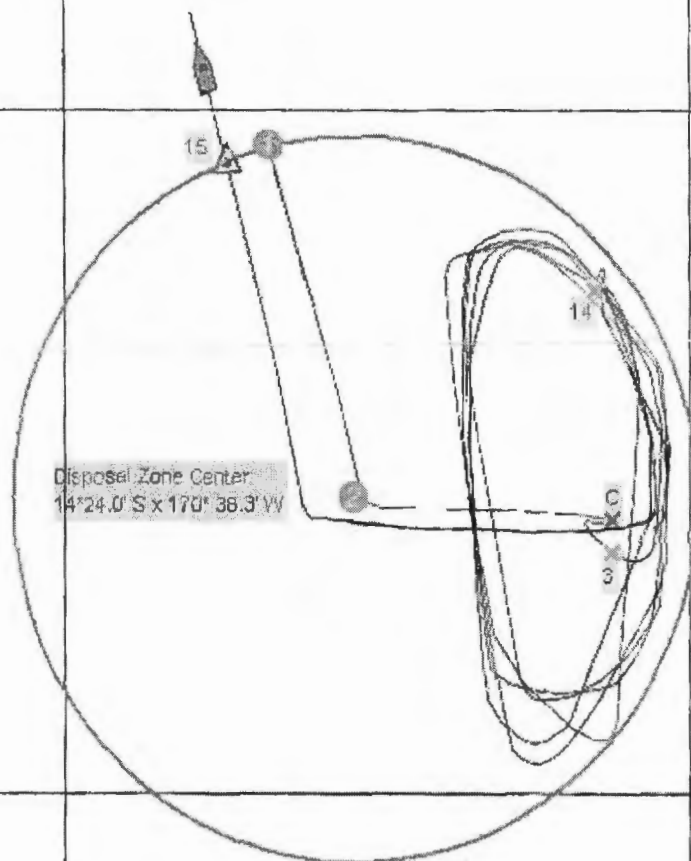
Voyage # 5508

Starkist Cargo, Trip #1

\* Ocean Monitoring/Sampling Conducted

*M. Crook*

M. Crook, Master  
F/V Blue Moon



Wind East @ 10 - 15 kts.

12/10/11 Sat.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5509

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

165,000	Gallons
d	Gallons
165,000	Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	Calm	75	29.52	Metric	kts	True*
Arrive Edge of Zone #1	14°22.57' S 170°38.63' W	East-10	"	"	E/SE to 1.0	9.3	161
Arrive Zone Center #2	14°24.0 S 170°38.3 W	" "	65	"	" "	9.2	163
Begin Discharge #3	14°24.13' S 170°37.19' W	" "	66	"	" " X	8.3	092
Remarks:	#4	14°23.77' S 170°37.73' W	" "	"	" "	9.5	182
	#5	14°24.64' S 170°37.08' W	" "	"	" "	8.6	004
	#6	14°23.67' S 170°37.69' W	" "	"	" "	9.4	186
	#7	14°24.76' S 170°37.23' W	East-12	"	" "	8.6	032
	#8	14°23.12' S 170°37.62' W	" "	"	" "	9.0	191
	#9	14°25.14' S 170°37.67' W	" "	29.51	" "	8.5	088
	#10	14°23.20' S 170°37.14' W	" "	"	" "	9.4	294
	#11	14°25.03' S 170°37.73' W	" "	"	" "	8.4	117
	#12	14°23.02' S 170°37.24' W	" "	"	" "	9.8	312
	#13	14°24.57' S 170°37.82' W	" "	"	" "	10.0	189
	#14	14°23.77' S 170°36.99' W	" "	"	" "	9.7	000
	#15	14°2 S 170°3 W	" "	"	" "	"	"
	#16	14°2 S 170°3 W	" "	"	" "	"	"
	#17	14°2 S 170°3 W	" "	"	" "	"	"
	#18	14°2 S 170°3 W	" "	"	" "	"	"
	#19	14°2 S 170°3 W	" "	"	" "	"	"
	#20	14°2 S 170°3 W	" "	"	" "	"	"
		14°2 S 170°3 W	" "	"	" "	"	"
		14°2 S 170°3 W	" "	"	" "	"	"
		14°2 S 170°3 W	" "	"	" "	"	"
Finish Discharge	#15 14°22.93' S 170°37.28' W	East-12	50	29.51	E/SE to 1.0	9.7	331
Exit Discharge Zone	#16 14°22.93' S 170°37.28' W	" "	"	"	" "	9.7	331
Secure SK Dock	14°16.50' S 170°41.2' W	" "	"	"	" "	"	"

Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseDischarge Time: 170 mins. Average Speed During Discharge: 9.15 kts. Total Time Run 4.9 hr.Initial Plot made: yes Presence of Plume? NoPosition of any floating material: NoneOccurrences? NoneIns made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓Discharge Rate: 106 Gallons/min/kt.

Master: F/V Blue Moon

M. Cook



170 39.60 W

170 36.80 W

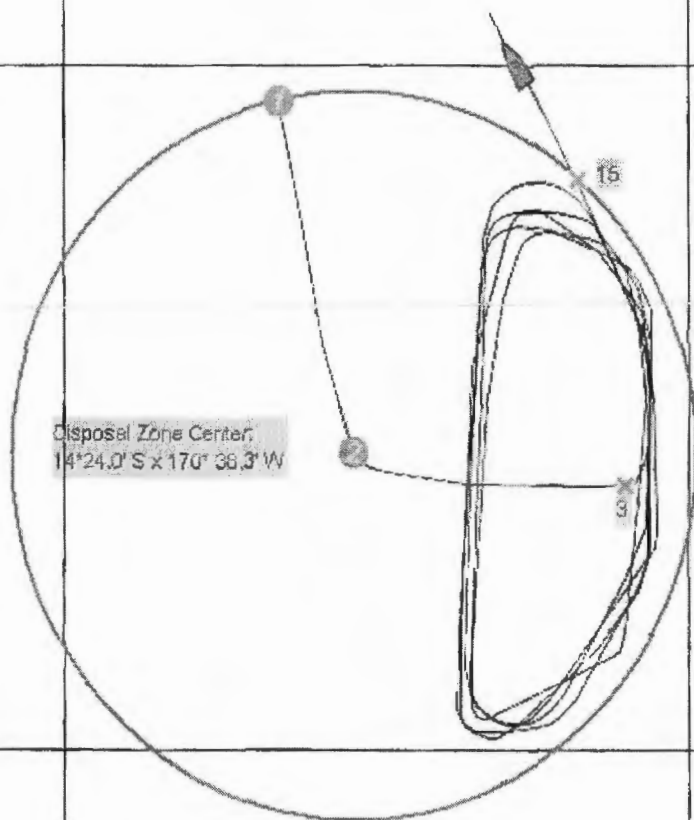
170 34.00 W

10 December, 2011 - Set  
Voyage # 5509  
Starkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FV Blue Moon

Disposal Zone Center:  
14°24.0' S x 170° 36.3' W



Wind: East @ 10 - 12 kts.

12/13/11 Tues.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5510

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded: SK

Other

Total

194,500

0

194,500

Gallons

Gallons

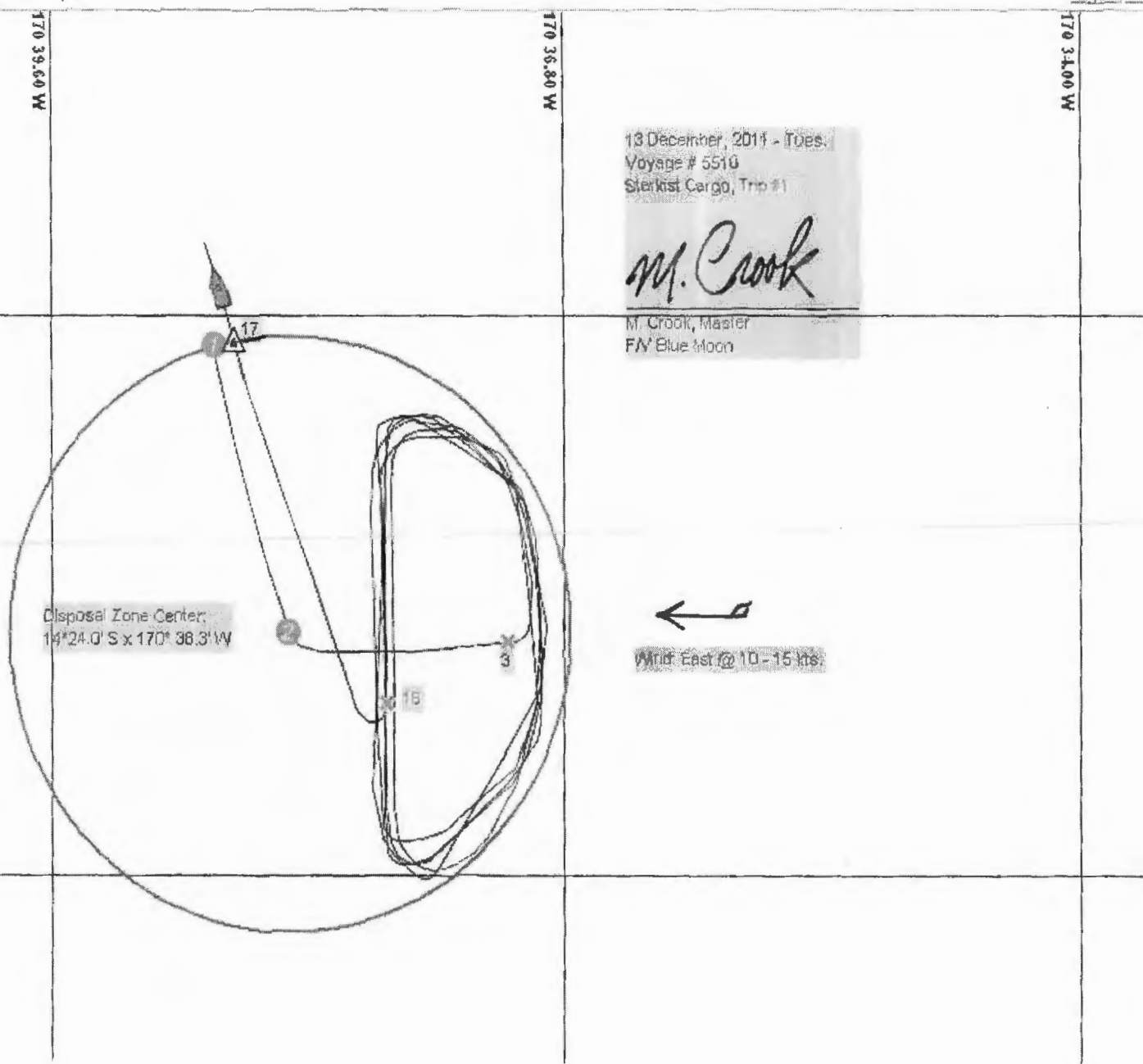
Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	North-3	100	29.57	Metric	kts	True*
Arrive Edge of Zone	#1 14°22.57' S 170°38.68' W	East-10	"	"	E+SE-1.0	9.0	164
Arrive Zone Center	#2 14°24.0' S 170°38.3' W	"	"	"	"	9.1	158
Begin Discharge	#3 14°24.05' S 170°37.09' W	"	"	29.58	" " X	8.6	088
	#4 14°23.57' S 170°37.85' W	"	"	29.59	"	8.5	177
Remarks:	#5 14°24.87' S 170°37.29' W	"	"	"	"	8.3	019
	#6 14°23.04' S 170°37.34' W	"	"	"	"	8.9	306
	#7 14°24.89' S 170°37.81' W	"	"	"	"	9.2	173
	#8 14°23.64' S 170°36.94' W	"	"	"	"	9.4	312
	#9 14°23.91' S 170°37.78' W	"	"	"	"	9.5	180
	#10 14°24.30' S 170°36.91' W	"	"	"	"	9.6	357
	#11 14°23.41' S 170°37.71' W	East-12	"	29.60	"	9.5	180
	#12 14°24.64' S 170°37.62' W	East-15	100-Rain	"	"	9.9	008
	#13 14°23.15' S 170°37.78' W	"	"	"	"	8.8	191
	#14 14°24.95' S 170°37.33' W	East-12	100	"	"	9.4	047
	#15 14°22.91' S 170°37.72' W	East-10	100	29.61	"	9.5	262
	#16 14°24.22' S 170°37.77' W	East-10	100	29.61	E+SE-1.0	9.8	180
Exit Discharge Zone	#17 14°22.58' S 170°38.56' W	"	"	"	"	10.1	337
Secure SK Dock	14°16.50' S 170°41.2' W						

Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseDischarge Time: 190 mins. Average Speed During Discharge: 9.25 kts. Total Time Run 5.33 hr.Initial Plot made: Yes Presence of Plume? NoPosition of any floating material: NoneOccurrences? NoneCons made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓Discharge Rate: 110.7 Gallons/min/kt.

Master: F/V Blue Moon

M. Crook



13 December, 2011 - Tues.  
Voyage # 5510  
Sterkist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
FW Blue Moon

Disposal Zone Center:  
14° 24.0' S x 170° 36.3' W

Wind East @ 10-15 kts.

12/15/11 Thurs.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5511

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

192,000

Gallons

0

Gallons

192,000

Gallons

	WP#	GPS Position		Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist		14°16.50' S	170°41.2' W	East-7	80	29.60	Metric	kts	True*
Arrive Edge of Zone	#1	14°22.58' S	170°38.67' W	East-10	90	29.61	East-1.0	9.0	162
Arrive Zone Center	#2	14°24.0' S	170°38.3' W	" "	"	29.62	" "	9.1	164
Begin Discharge	#3	14°24.11' S	170°37.12' W	" "	"	29.63	East-1.5 X	8.8	090
	#4	14°23.58' S	170°37.75' W	" "	"	"	" "	8.9	180
Remarks:	#5	14°24.63' S	170°36.89' W	East-12	"	29.64	" "	8.3	022
	#6	14°22.88' S	170°37.70' W	" "	95	29.65	" "	8.6	267
	#7	14°24.85' S	170°37.77' W	" "	"	"	" "	9.2	180
	#8	14°23.66' S	170°37.23' W	" "	"	"	" "	9.2	316
	#9	14°24.09' S	170°37.83' W	East-10	"	29.65	" "	9.5	180
	#10	14°24.15' S	170°36.98' W	" "	"	"	" "	9.1	009
	#11	14°23.60' S	170°37.85' W	" "	"	"	" "	9.7	178
	#12	14°24.31' S	170°37.00' W	East-12	100 - Rain	"	" "	9.4	021
	#13	14°23.09' S	170°37.81' W	" "	" "	"	" "	9.7	184
	#14	14°24.94' S	170°37.38' W	" "	" "	29.67	" "	9.1	033
	#15	14°22.90' S	170°37.63' W	East-10	100	"	" "	9.8	256
	#16	14°2' S	170°3' W						
	#17	14°2' S	170°3' W					15	
	#18	14°2' S	170°3' W						
	#19	14°2' S	170°3' W						
	#20	14°2' S	170°3' W						
		14°2' S	170°3' W						
		14°2' S	170°3' W					20	
		14°2' S	170°3' W						
Finish Discharge	#16	14°23.50' S	170°37.79' W	East-10	100%	29.68	East-1.5	9.1	349
Exit Discharge Zone	#17	14°22.56' S	170°37.97' W	" "	95%	"	" "	10.0	342
Secure SK Dock		14°16.50' S	170°41.2' W						

Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseDischarge Time: 190 mins. Average Speed During Discharge: 9.2 kts. Total Time Run 5.25 hr.Thal Plot made: yes Presence of Plume? NoPosition of any floating material: NoneDischarge Rate: 110 Gallons/min/kt.Occurrences? NoneTests made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Cook



12/17/11 Sat.

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5512

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SK  
 Finish 1<sup>st</sup> Loading SK  
 Begin 2<sup>nd</sup> Loading SK  
 Finish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

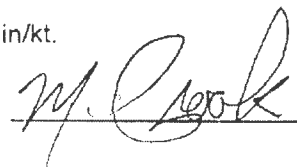
Total

190,000	Gallons
0	Gallons
190,000	Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
5	Depart Starkist	14°16.50' S 170°41.2' W	East-10	60	29.59	Metric	True*
8	Arrive Edge of Zone	#1 14°22.58' S 170°38.71' W	East-12	"	"	East-1.5	8.7
9	Arrive Zone Center	#2 14°24.0' S 170°38.3' W	East-15	"	"	"	8.8
	Begin Discharge	#3 14°24.15' S 170°37.24' W	"	"	"	"	8.8
		#4 14°23.39' S 170°37.64' W	"	"	"	"	8.9
	Remarks:	#5 14°24.78' S 170°37.34' W	"	29.60	"	"	8.7
		#6 14°23.00' S 170°37.38' W	"	"	"	"	9.0
		#7 14°24.95' S 170°37.32' W	"	"	East-2.05	"	8.7
		#8 14°23.14' S 170°37.20' W	"	"	"	"	9.3
		#9 14°24.52' S 170°37.66' W	"	"	"	"	9.4
		#10 14°23.44' S 170°37.03' W	"	"	"	"	9.7
		#11 14°24.21' S 170°37.70' W	"	"	"	"	9.6
		#12 14°23.95' S 170°36.96' W	"	60	"	10	9.7
		#13 14°24.40' S 170°37.66' W	"	"	29.59	"	9.6
		#14 14°23.81' S 170°36.95' W	"	50	"	"	9.9
		#15 14°23.90' S 170°37.73' W	"	"	"	"	9.5
		#16 14°2' S 170°3' W	"	"	"	"	"
		#17 14°2' S 170°3' W	"	"	"	15	"
		#18 14°2' S 170°3' W	"	"	"	"	"
		#19 14°2' S 170°3' W	"	"	"	"	"
		#20 14°2' S 170°3' W	"	"	"	"	"
		14°2' S 170°3' W	"	"	"	"	"
		14°2' S 170°3' W	"	"	"	20	"
		14°2' S 170°3' W	"	"	"	"	"
	Finish Discharge	#16 14°23.16' S 170°37.70' W	East-15	50 %	29.59	East-2.0	9.7
	Exit Discharge Zone	#17 14°22.57' S 170°38.00' W	"	"	"	"	9.9
	Secure SK Dock	14°16.50' S 170°41.2' W	"	"	"	"	327

Direction: At Center WestEnd of Discharge WestDischarge Pattern EllipseDischarge Time: 188 mins. Average Speed During Discharge: 9.3 kts. Total Time Run 5.25 hr.Initial Plot made: Yes Presence of Plume? NoPosition of any floating material: NoneOccurrences? NoneCons made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon



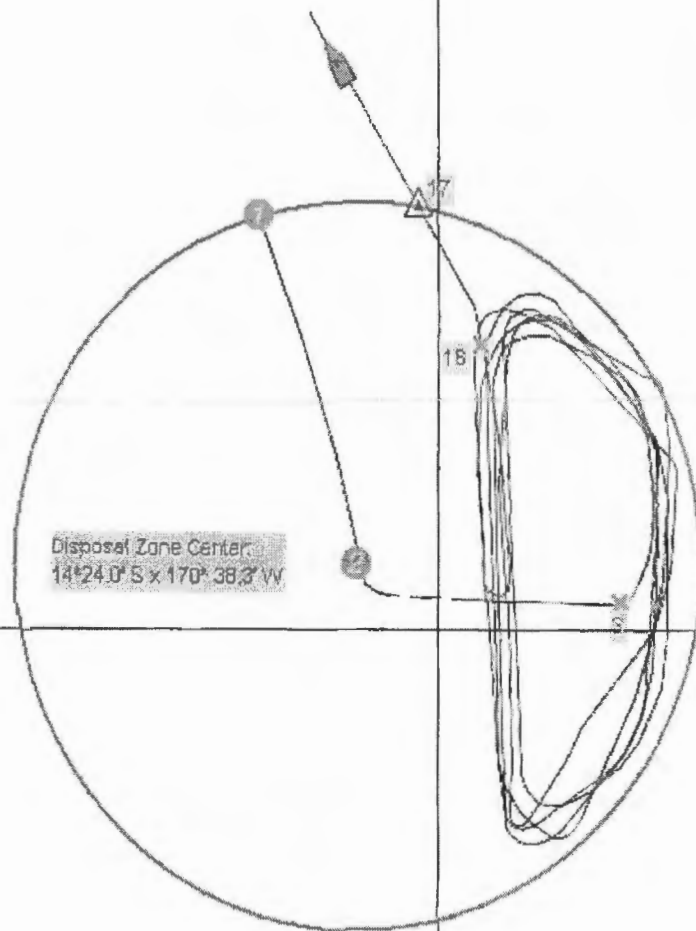
17 December, 2011 - Sat.  
Voyage # 5512  
Starlist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon

Disposal Zone Center:  
14°24.0' S x 170°38.3' W

Wind East @ 10-15 kts



12/19/11 Mon..

## F/V Blue Moon Ocean Dumping Log

Voyage #: 5513

Permit # OD 93-01 &amp; OD 93-02

Begin 1<sup>st</sup> Loading SKFinish 1<sup>st</sup> Loading SKBegin 2<sup>nd</sup> Loading SKFinish 2<sup>nd</sup> Loading SK

Trip # 1 - X

Trip # 2

Volume Loaded:

SK

Other

Total

180,00	Gallons
0	Gallons
180,000	Gallons

WP#	GPS Position	Wind	% Clouds	Barometer	Swell	Speed	Course
Depart Starkist	14°16.50' S 170°41.2' W	East-2	75	29.57	Metric	kts	True*
Arrive Edge of Zone #1	14°22.58' S 170°38.64' W	East-10	60	29.59	East-1.0	9.1	163
Arrive Zone Center #2	14°24.0' S 170°38.3' W	" "	50	"	" "	8.7	158
Begin Discharge #3	14°24.09' S 170°37.12' W	" "	"	"	" " X	9.0	090
Remarks:	#4 14°23.31' S 170°37.67' W	}	}	"	}	9.1	178
	#5 14°24.52' S 170°36.96' W			"		9.3	012
	#6 14°23.24' S 170°37.69' W			"		9.2	183
	#7 14°24.55' S 170°36.99' W			"		9.3	021
	#8 14°23.29' S 170°37.77' W			"		9.1	184
	#9 14°24.68' S 170°37.05' W			"		9.4	042
	#10 14°23.05' S 170°37.70' W			29.60		9.7	253
	#11 14°25.01' S 170°37.37' W			"		9.2	034
	#12 14°23.10' S 170°37.42' W			"		9.5	293
	#13 14°24.89' S 170°37.58' W			"		9.1	118
	#14 14°23.14' S 170°37.24' W			"		9.6	291
	#15 14°23.35' S 170°37.81' W			"		9.9	351
#16	14°2' S 170°3' W						
#17	14°2' S 170°3' W					15	
#18	14°2' S 170°3' W						
#19	14°2' S 170°3' W						
#20	14°2' S 170°3' W						
	14°2' S 170°3' W						
	14°2' S 170°3' W					20	
	14°2' S 170°3' W						
Finish Discharge #16	14°22.98' S 170°37.87' W	East-12	70%	29.60	East-1.0	10.0	337
Exit Discharge Zone #17	14°22.59' S 170°38.01' W	" "	"	"	" "	10.0	334
Secure SK Dock	14°16.50' S 170°41.2' W						

Direction: At Center WestEnd of Discharge West-SlowDischarge Pattern EllipseDischarge Time: 182 mins. Average Speed During Discharge: 9.4 kts. Total Time Run 5.0 hr.Visual Plot made: yes Presence of Plume? NoPosition of any floating material: NoneDischarge Rate: 105 Gallons/min/kt.Occurrences? NoneIns made: A.S.P.A. ✓ U.S.C.G.M.S.D. ✓

Master: F/V Blue Moon

M. Crook



170 30.59 W

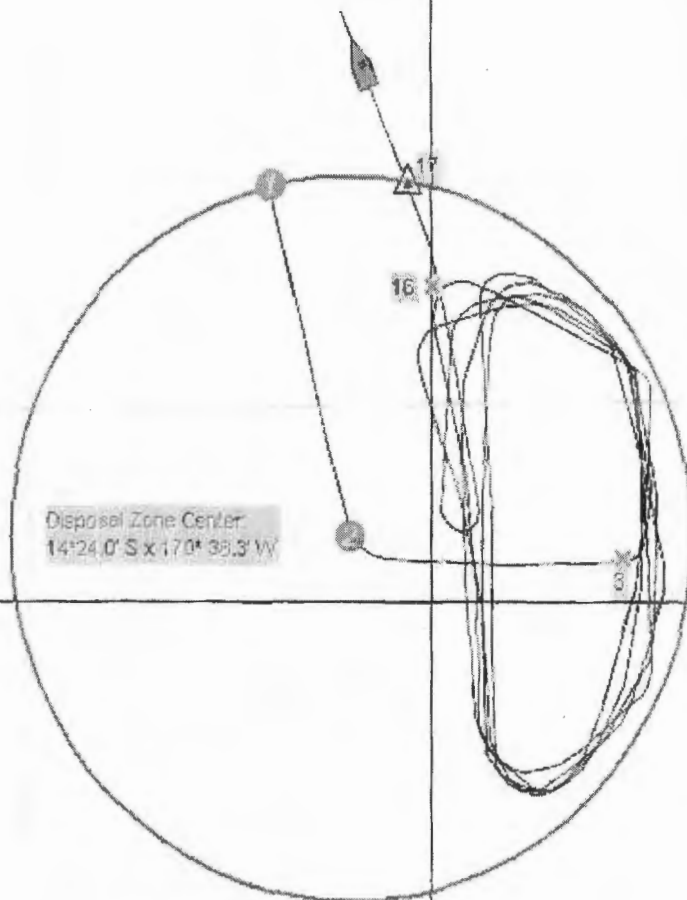
170 37.92 W

170 35.15 W

19 December, 2011 - Mon.  
Voyage # 5513  
Starlist Cargo, Trip #1

*M. Crook*

M. Crook, Master  
F/V Blue Moon



Disposal Zone Center:  
14°24.0' S x 170° 38.3' W



Wind East @ 10 - 12 kts.

January 30<sup>th</sup> 2012

Michael Wolfram  
Program Manager  
Pacific Islands Office  
USEPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

**RE: OCEAN DUMPING PERMIT OD93-02 SPECIAL**

Dear Michael:

Pursuant to the requirements of the above referenced permit, we are herewith submitting the Quarterly ocean dumping report for the period of October 2011 through December 2011 for Samoa Tuna Processors Inc. No waste has been generated or transferred or dumped in this quarter. Enclosed are the following:

- \* EPA Forms 1, 2 and 3.
- \* Results of Monthly Onshore Storage Tank Analysis. No testing was done. N/A
- \* Letter to ASEPA reporting exceedances and irregularities during the 3 month period where applicable. There were no exceedances. N/A
- \* Monthly Site Monitoring Reports. N/A
- \* Results of Monthly Site Monitoring Analysis.

Please advise if additional information is required.

Sincerely,



Craig Double  
Facility Manager  
Samoa Tuna Processors Inc.

Enclosures:  
Pacific Island Office

Cc(1) Except Vessel Logs

Director  
American Samoa Environmental  
Protection Agency  
American Samoa Government  
Pago Pago, American Samoa 96799

Cc(1) Complete Report

Director of Engineering  
Chicken of the Sea International  
9330 Scranton Road  
Suite 500  
San Diego, California 92121

Allan Ota  
Wetlands Office  
US EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Cc(1) Vessel Logs Only

Commanding Chief  
U.S. Coast Guard Liaison Office  
P.O. Box 249  
Pago Pago, American Samoa 96799

Cc(1) Except Vessel Logs:

Project Leader  
Office of Environmental Services  
U.S. Fish and Wildlife Service  
300 Ala Moana Boulevard  
P.O. Box 50167  
Honolulu, Hawaii 96850

John Naughton  
Pacific Island Regional Office  
1601 Kapiolani BLvd.  
Suite 1110  
Honolulu, Hawaii 96814-4700

Executive Director  
Western Pacific Regional Fishery  
Management Council  
1164 Bishop Street, Suite 1405  
Honolulu, Hawaii 96813

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

10 November, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
14 November, 2011

## Introduction


On November 10, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515: The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613: The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0623: The *Blue Moon* arrived at the dump-zone center, where observed light northeasterly winds and slight east to NE seas initially indicated disposal operations be conducted in the northeastern dump-zone quadrant.
- 0635: Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or northeast (NE) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with station's position were recorded (Table 1). Seas at this time were slight with east & NE swells to 1.0 meters and a NE breeze of 10 knots with the barometer reading 29.53. Current set and drift, of the ship, were to the southwest at 0.6 knots. No floating materials or sea life were observed here.
- 0648: The *Blue Moon* began disposal operations in the NE dump zone quadrant and continued discharging cargo (high-strength waste water) with a northwest (NW) to SE reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 10:15 hrs.
- 1025: Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The NE winds had stayed constant at 10 knots with still overcast skies. The waste plume appeared here as an oblong body of light/moderate glassy surface sheen extending in a northwest (NW) to SE direction and moving slowly to the southwest (SW). The current/wind drift of the ship was GPS determined to be, as at Control Station, southwesterly @ 0.6 knots. No sea life or

floatable materials were observed.

- 1035:     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some very light, glassy surface sheen but no floating or suspended particulate material. The average drift rate of the ship with current and wind was GPS determined to be southwesterly at 0.7 knots between stations 2 & 3 (See Plot #1). No sea-life was noted at this position.
- 1045:     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed some streaks of moderate glassy surface sheen over clear blue water. The drift rate of the ship between Stations #3 & 4 was again, 0.7 knots to the SW.
- 1055:     Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM SW of Station #3, showed a long, unbroken vessel track-line of typical heavy glassy surface sheen characteristic of the high strength wastewater extending in a NW to SE direction over 2 NM long and was within 0.25 NM from the visible leading edge of the plume. There were no floating or suspended materials. The SW current/drift rate of the ship was again noted here to be at 0.7 knots.
- 1105:     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and just slightly NE of the zone center (See Plot #1). The leading edge of the waste plume was not clearly visible at this location and consisted of just a few scattered streaks of very light glassy surface sheen with clear, natural appearing blue waters further down-current to the southwest. The final drift rate of the ship was noted to be 0.6 knots and the waste plume appeared to be nearly stationary. Other than a few random seabirds flying by, no notable sea life was observed at this position or any of the other sampling stations. The final barometer reading was 29.54 when monitoring activities were concluded at 11:19 hrs. The *Blue Moon* exited the disposal zone at 11:31 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 12:20 hours.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

**Table 1**

<b>Date:</b> November 10, 2011	<b>Sea Conditions:</b> Slight w/ East & NE swells to 1.0 meters.					<b>Wind:</b> Northeast @ 10 knots steady.	<b>Visibility:</b> Good 8-10 NM
	<b>Barometer:</b> 29.53 ^ 29.54		<b>Current Set &amp; Drift Rate:</b> Southwest @ average 0.6 knots			<b>Sky:</b> Cloudy 100%	
<b>Time</b>	<b>Station</b>	<b>Depth (meters)</b>	<b>Temp. (°C)</b>	<b>pH</b>	<b>Odor</b>	<b>Color</b>	
0635	Control	1	27.2	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.2			
		10	26.7	8.2			
1025	Station 1	1	28.3	8.2	None	Scattered patches of moderate surface sheen over deep, blue & clear water. No floating or suspended materials	
		3	27.8	8.2			
		10	27.8	8.2			
1035	Station 2	1	27.8	8.2	Slightly Pungent	A few broken patches and streaks of light surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.	
		3	27.8	8.2			
		10	27.8	8.2			
1045	Station 3	1	28.3	8.2	Slightly Pungent	Same as Station #1.	
		3	28.0	8.2			
		10	28.0	8.2			
1055	Station 4	1	28.3	8.1	Slightly Pungent	Long northwest to southeast extending track line of moderate to heavy surface sheen over clear blue water.	
		3	28.3	8.1			
		10	28.3	8.1			
1105	Station 5	1	28.3	8.2	None	Leading Edge of the waste plume. Indistinct boundary of plume and clear, natural blue seas further down-current to the southwest. Just a few scattered streaks of very light surface sheen. No particulate materials.	
		3	28.3	8.2			
		10	28.3	8.2			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 23.51'	South	170° 37.24'	West
Station 1	14° 24.40'	South	170° 37.05'	West
Station 2	14° 23.49'	South	170° 37.36'	West
Station 3	14° 23.65'	South	170° 37.58'	West
Station 4	14° 23.75'	South	170° 37.85'	West
Station 5	14° 23.96'	South	170° 38.12'	West

170 42.93 W

170 39.30 W

170 36.51 W

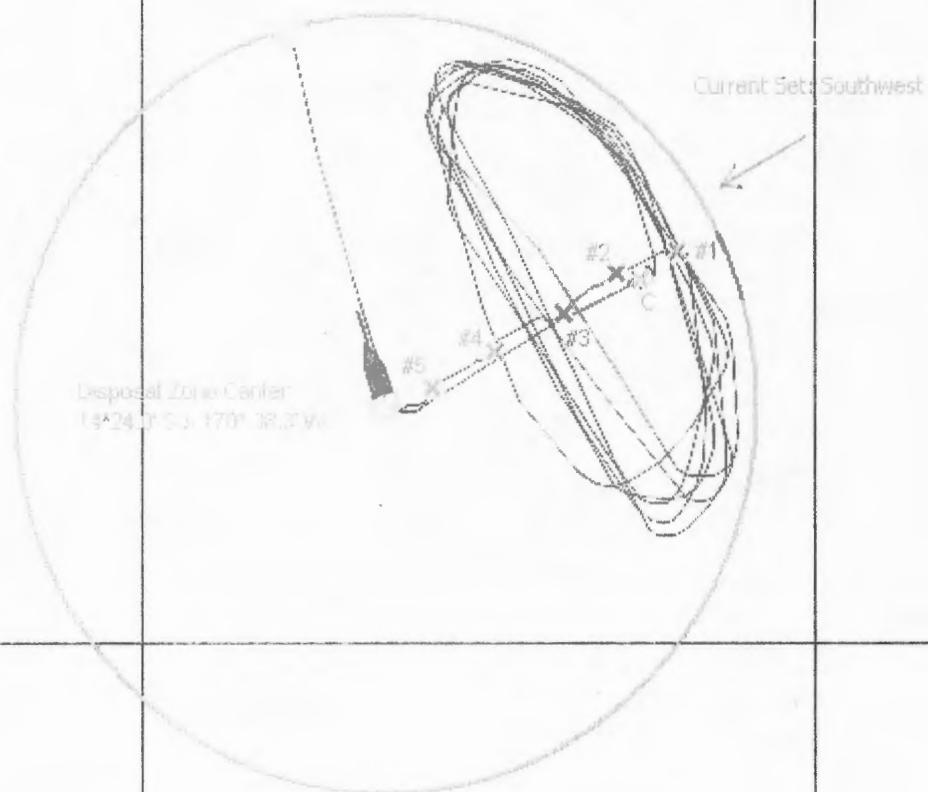
PLOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
10 November, 2011

*M. Crook*

M. Crook, Investigator

22.11 S

24.90 S





# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

08 December, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 December, 2011


## Introduction

On December 08, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0515:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0606:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.7' W.
- 0615:** The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0625:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with east/SE swells to 1.5 meters and east winds at 12 knots (kts.) with the barometer reading 29.59. Current set and drift, of the ship, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0637:** The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.4 miles long (see Plot 1) until 0922 hrs.
- 0935:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 15 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west a short distance, (approximately 0.25 miles) away. The current/wind drift of the ship was GPS determined to be westerly @ 1.3 knots. No sea life or floating materials were observed.

- 0945:** Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed only a few scattered patches of light surface sheen over clear, natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.2 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 0955:** Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position had the same color qualities as Station # 1, that is, no visible sign of the waste plume. Sea & wind conditions remained the same as with the previous sample stations and the drift rate of the ship between Stations #3 & 4 was 1.2 knots, again, to the west.
- 1005:** Station Four monitoring. This area showed more of the same broken streaks and patches of very light surface sheen over clear blue subsurface water present at Station #2. The westerly current/drift rate of the ship was again noted here to be at 1.2 knots. No floating scum or suspended particulate materials were observed at any of these sample stations.
- 1015:** Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.08 NM SW of the zone center (see Plot #1). The leading edge of the waste plume was not clearly visible at this location as there was only an occasional small patch or streak of very light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Again, no floating or suspended scum or particulates were noted at any of the five sampling stations. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.60 when monitoring activities were concluded at 1023 hrs. The *Blue Moon* exited the disposal zone at 1034 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 11:25.

Prepared by   
Mike Crook, Principal Investigator

# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

<b>Date:</b> December 08 2011	<b>Sea Conditions:</b> Slight with East/Southeast swells to 1.5 meters.					<b>Wind:</b> East @ 10 - 15 knots	<b>Visibility:</b> Unlimited
	<b>Barometer:</b> 29.58 ↑ 29.60		<b>Current Set &amp; Drift Rate:</b> West @ average 1.2 knots			<b>Sky:</b> Partly cloudy w/ some passing rain	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0625	Control	1	27.8	8.0	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.2	8.1			
		10	27.2	8.0			
0935	Station 1	1	28.3	8.3	None	Same color qualities as Control Station; clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current	
		3	27.8	7.9			
		10	27.8	8.1			
0945	Station 2	1	27.8	8.3	Slightly Pungent	Streaks and patches of light, glassy surface sheen from broken up, north to south running vessel discharge track lines. No sign of floating or particulate materials.	
		3	27.8	7.7			
		10	27.8	7.9			
0955	Station 3	1	28.3	8.0	none	Same color qualities as Control & Station #1	
		3	28.0	8.1			
		10	28.0	8.2			
1005	Station 4	1	28.3	8.2	Slightly Pungent	A few scattered streaks & patches of very light, glassy surface sheen over deep, clear blue. No floating or suspended particulate or other material.	
		3	28.3	8.1			
		10	28.0	7.5			
1015	Station 5	1	28.3	8.3	Slightly Pungent	Leading edge of the waste plume: Same color & sheen observations as at Station #4 and located very close to the disposal zone center.	
		3	28.0	8.2			
		10	28.0	7.8			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.09'	South	170° 37.17'	West
Station 1	14° 24.10'	South	170° 36.94'	West
Station 2	14° 24.13'	South	170° 37.30'	West
Station 3	14° 24.14'	South	170° 37.52'	West
Station 4	14° 24.12'	South	170° 37.85'	West
Station 5	14° 24.08'	South	170° 38.30'	West

N ▲

170 39.60 W

170 36.80 W

170 34.00 W

PLOT #1

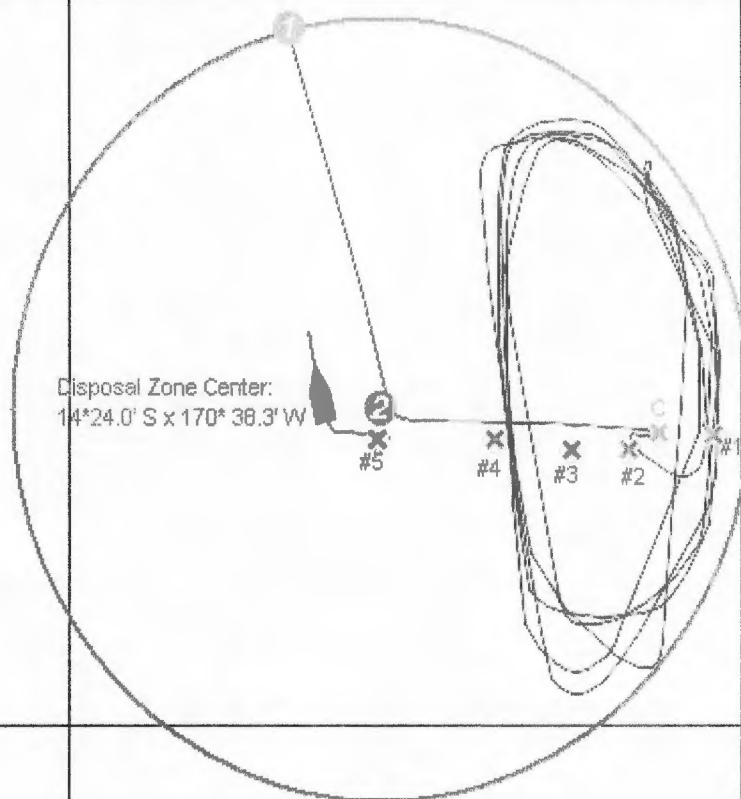
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
08 December, 2011

*M. Crook*

M. Crook, Investigator

14 22.40 S

Disposal Zone Center:  
14°24.0' S x 170° 36.3' W



←  
Current Set; West

14 25.20 S

# Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

07 October, 2011

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
STP/Tri Marine Liaison:	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation



Mike Crook  
P.O. Box 4933  
Pago Pago, AS 96799  
10 October, 2011


## Introduction

On October 07, 2011 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

## Chronology of Events

- 0520: The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on board.
- 0613: The *Blue Moon* entered the dumpzone circle @ 14°22.6' S x 170°38.8' W.
- 0624: The *Blue Moon* arrived at the dump-zone center, where observed east winds and slight east to southeasterly seas initially indicated disposal operations be conducted in the eastern dump-zone quadrant.
- 0620: Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east (E) of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with East & SE swells to 1.5 meters and east winds at 7 knots (kts.) with the barometer reading 29.61. Current set and drift of the ship, by GPS, were to the west at 0.7 knots. No floating materials or sea life were observed here.
- 0645: The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging cargo (high strength waste water) with a north (N) to south (S) reciprocal, elongated elliptical pattern, approximately 2.25 miles long (see Plot 1) until 09:36 hrs.
- 0945: Station One Monitoring (See Plot #1). Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east wind had increased to 10 kts. with partly cloudy skies. The waste plume was not visibly present here and was only apparent further down-current to the west some distance, (about 0.2 miles) away. The current/wind drift of the ship was GPS determined to be westerly at 0.9 knots. No floating or suspended materials were noted here.

- 0955:     Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed some light sheen of previous vessel track lines as the only visible indication of the waste plume. The average drift rate of the ship with current and wind was GPS determined here to be westerly (W) at a rate of 1.0 knots between stations 2 & 3 (See Plot #1). No sea-life or floating materials were noted at this position.
- 1005:     Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed a broad area of continuous streaks and patches of moderate surface sheen along with widespread swaths of floating brown scum and large brown particulates. Also present were much finer and lighter colored, suspended particulate material in light concentration extending down to the limit of visibility (approx. 3-4 meters). Sea & wind conditions remained the same as with the previous two sample stations and the drift rate of the ship between Stations #3 & 4 was 1.1 knots, again, to the west.
- 1015:     Station Four monitoring. This position was in the same large area of moderate surface sheen as Station #3 and showed the same sparsely concentrated fine, light gray colored suspended particulate material but none of the floating scum etc. The westerly current/drift rate of the ship was again noted here to be at 1.1 knots. No sea-life was observed.
- 1030:     Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.35 NM west of the zone center (See Plot #1). The leading edge of the waste plume was distinctive at this location as an unbroken line of light, glassy surface sheen with clear, natural appearing blue waters further down-current to the west. Also present in this sheen were more swaths of the floating scum and large particulate material but none of the fine suspended particles. All these materials were various shades of brown. The final drift rate of the ship was noted to be 1.0 knots. Other than a few random seabirds flying, no significant sea life was observed at this position or any of the previous stations. The final barometer reading was 29.62 when monitoring activities were concluded at 1040 hrs. The *Blue Moon* exited the disposal zone at 1048 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1140 hours.

Prepared by   
Mike Crook, Principal Investigator



# OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table

Date: 07 October, 2011	<u>Sea Conditions:</u> Slight w/ SE & Easterly swells to 1.5 meters.				<u>Wind:</u> East @ 7 - 10 knots		<u>Visibility:</u> Unlimited
	<u>Barometer:</u> 29.61 ↑ 29.63 ↓ 29.62		<u>Current Set &amp; Drift Rate:</u> West @ average 1.0 knots			<u>Sky:</u> Partly cloudy, 25 - 50%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0635	Control	1	26.1	8.2	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	26.1	8.2			
		10	26.1	8.2			
0945	Station 1	1	27.5	8.2	None	Same color qualities as Control Station, clear and natural blue with no floating or suspended particulate material. Waste plume noted just west of this position having been moved by the current	
		3	27.5	8.2			
		10	27.2	8.2			
0955	Station 2	1	27.5	8.2	Slightly Pungent	Broken patches of previous vessel track lines and streaks of slight surface sheen over deep, clear blue water. No floating scum or other particulate type materials present.	
		3	27.2	8.2			
		10	27.2	8.2			
1005	Station 3	1	27.8	8.2	Pungent	In a long north to south extending area of moderate surface sheen with many floating swaths composed of brown scum and large brownish particulates.	
		3	27.2	8.2			
		10	27.5	8.2			
1015	Station 4	1	27.8	8.2	Pungent	Part of the same broad area of moderate surface sheen as St. #3 with many floating swaths of large brown particulates and also lighter, fine suspended particles in the water column to the limit of visibility.	
		3	27.8	8.2			
		10	27.5	8.2			
1030	Station 5	1	27.2	8.2	Pungent	Leading Edge of the waste plume. Distinct boundary of light to moderate surface sheen along with the same floating and suspended particulates as described at Station #4 but not as dense. Clear & natural blue seas further down-current to the West	
		3	27.2	8.2			
		10	27.2	8.2			

## SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control - C	14° 24.05'	South	170° 37.18'	West
Station 1	14° 24.00'	South	170° 36.99'	West
Station 2	14° 23.95'	South	170° 37.24'	West
Station 3	14° 23.97'	South	170° 37.53'	West
Station 4	14° 23.95'	South	170° 37.89'	West
Station 5	14° 23.96'	South	170° 38.64'	West



170° 40.23' W

170° 36.82' W

170° 33.41' W

14° 22.73' S

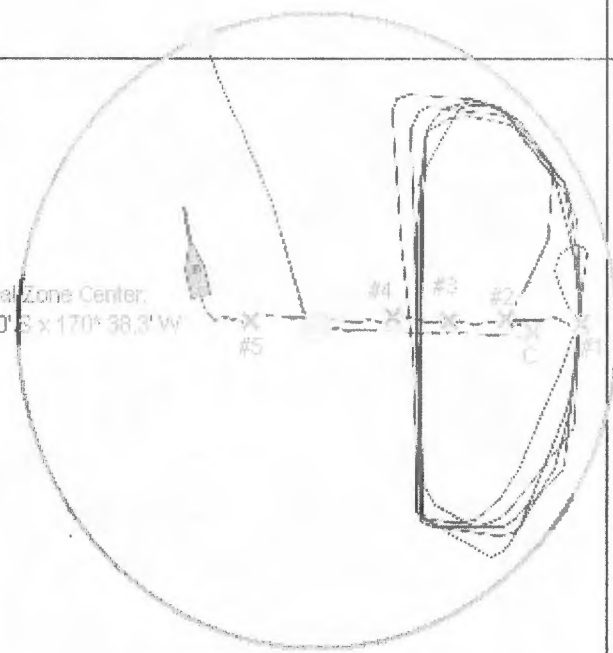
14° 26.14' S

LOT #1  
Ocean Monitoring Sampling Stations  
Control (C) and Sampling Stations #1 - #5  
07 October, 2011

*M. Crook*

M. Crook, Investigator

Disposal Zone Center:  
4° 24.0' S x 170° 38.3' W



←  
Current Set: West

## APPENDIX B - REPORT FORM 1

Monthly Volume of CFS Common Packing Fish Processing Wastes Generated  
Per Day and Volume of Fish Processing Wastes Disposed at the Ocean Site

Month: Decemebr 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	600,00	100,000	40,000	200,000	200,000
Dec 2011	No waste for December			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

## APPENDIX B - REPORT FORM 1

Monthly Volumes of CCG Sludge Resulting Fish Processing Wastes Generated  
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: Novemeber 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
Nov 2011	No waste for November			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

## APPENDIX B - REPORT FORM 1

Monthly Volumes of CDS Series Packing Fish Processing Wastes Generated  
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: October 2011

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
October 11	No waste for October			0	
Totals	0	0	0	0	0

Note: An asterisk(\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

Cumulative Yearly Data on Fish Processing Wastes  
Generated at Samoa Tuna Processors Inc. and Disposed at the Ocean Site  
MPRSA 102 Special Permit #OD 93-02

Reporting Period: From 01 JAN. 2011 31 DEC. 2011

Month & Year	DAF Sludge Generated (gallons/month)	Cooker Water Generated (gallons/month)	Press Water Generated (gallons/month)	Total Generated (gallons/month)	Coagulate polymer (pounds/month)	Volume Ocean Disposed (gallons/month)
Jan. 2011	0	0	0	0	0	0
Feb. 2011	0	0	0	0	0	0
Mar. 2011	0	0	0	0	0	0
Apr. 2011	0	0	0	0	0	0
May. 2011	0	0	0	0	0	0
Jun. 2011	0	0	0	0	0	0
Jul. 2011	0	0	0	0	0	0
Aug. 2011	0	0	0	0	0	0
Sep. 2011	0	0	0	0	0	0
Oct. 2011	0	0	0	0	0	0
Nov. 2011	0	0	0	0	0	0
Dec. 2011	0	0	0	0	0	0
Cumulative Yearly Totals	0	0	0	0	0	0

NOTE: A separate table shall be prepared for each calendar year.

## APPENDIX B - REPORT FORM 2

Data Form for 3-Month Report on Waste Stream Analyses for COS Samoa Packing MPRSA 102 Permit #OD 93-02

Reporting Period: From October 2011 to December 2011

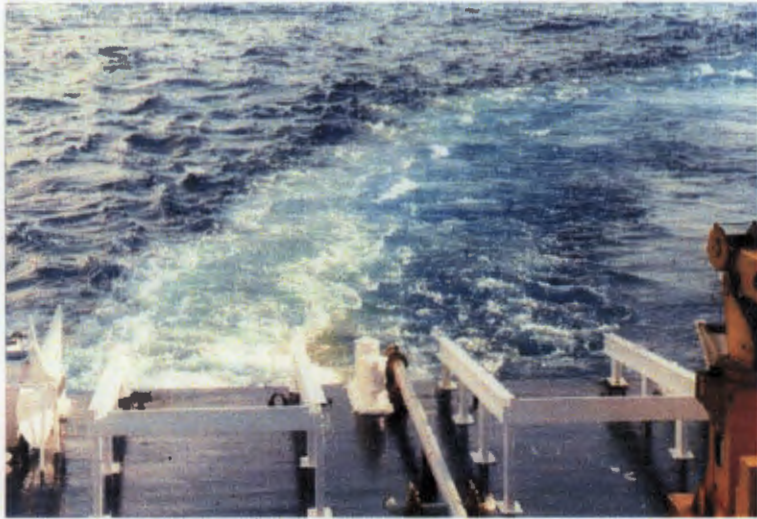
### COS Samoa Packing - Onshore Storage Monitoring Report

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-Day Biological Oxygen Demand (mg/L)	Oil and Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
October-11									
November-11									
December-11									
OD 93-02 Permit Limits	54,590	59,760	87,780	48,630	2,820	11,070	5,200	5.8 to 7.5	.97 to 1.03

NOTE: An asterisk(\*) next to the waste concentration signifies that an exceedance of the permit limit has occurred.



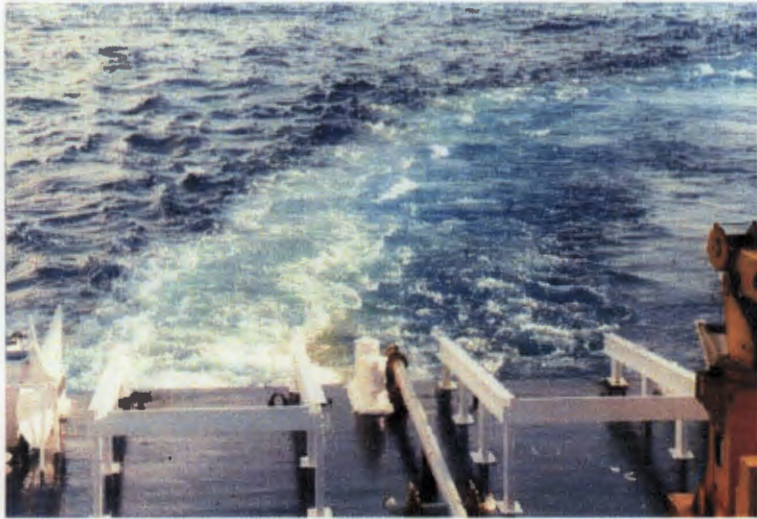
Ocean Disposal - Fish waste discharged directly into the prop wash







Ocean Disposal - Fish waste discharged directly into the prop wash





## **American Samoa Fish Waste Management – Elimination of Ocean Disposal – A Success Story**

### **Background / History**

American Samoa (also, known as Tutuila Island) is located over 2,600 nautical miles south-southwest of the Hawaiian Islands. Fish processing operations have existed on the island since World War II. US Navy installations were converted into a tuna processing facility as a pilot project with funding from the Rockefeller Foundation. The first commercial operations started in 1953 (Van Camp Seafoods-Chicken of the Sea) and a second facility opened in 1963 (Starkist). At peak of operations, into mid-2000s, both canneries combined to produce the bulk of the world market share of canned tuna. The canneries also employed the bulk of the available American Samoa work force.

Fish processing wastes were discharged directly into Pago Pago Harbor until 1974. Solids were removed from this waste water stream. With higher volumes of canning production, dissolved air flotation (DAF) processing was installed in 1974-1975 to reduce organic loading into the harbor. and the high strength (high nitrogen) fish waste, which could not be treated in the DAF process, was disposed in landfill sites on island. Over time there were human health issues associated with transportation by truck through downtown and residential areas, noxious odors (hydrogen sulfide), inadequate daily cover material at landfill sites (lack of soil), and increased numbers of insects and vermin. ←

An interim permit for ocean disposal was issued in 1979 by EPA Region 9, and after a series of research permits in 1986, 1987, and 1988, a permanent ocean disposal site was designated in deep water 4.5 miles offshore of Pago Pago Harbor for disposal of a maximum of 144 million gallons per year (combined for both canneries) of high strength fish waste. This significantly reduced the landfill waste stream. Ocean disposal continued until 2009, and was closely monitored at EPA direction. Disposal site monitoring showed no apparent adverse environmental impacts, due to high rate of dilution of this organic matter to background within the disposal site.

### **New Treatment Process – Elimination of Ocean Disposal**

In September 2009, the island was hit by a tsunami, resulting in widespread damage to shore side facilities, including complete destruction of one of the two tuna canning facilities. Starkist, the remaining tuna canning operation, now faced with having to cover all the costs of ocean disposal, conducted a new alternatives evaluation. Unlike earlier attempts to run the high strength fish waste through the DAF treatment system, it was apparent that with newer technology all NPDES parameters were attainable except for nitrogen. Eventually, a clarifier and bromine treatment system was found to be a cost effective option for reducing the nitrogen, allowing the high strength fish waste stream to be run through the DAF treatment system and discharged through the offshore pipe, thereby eliminating the need for ocean disposal. This new treatment process also created a substantial amount of fish meal through the conversion of solid waste generated from the canning process. [See attached flow chart – next page]

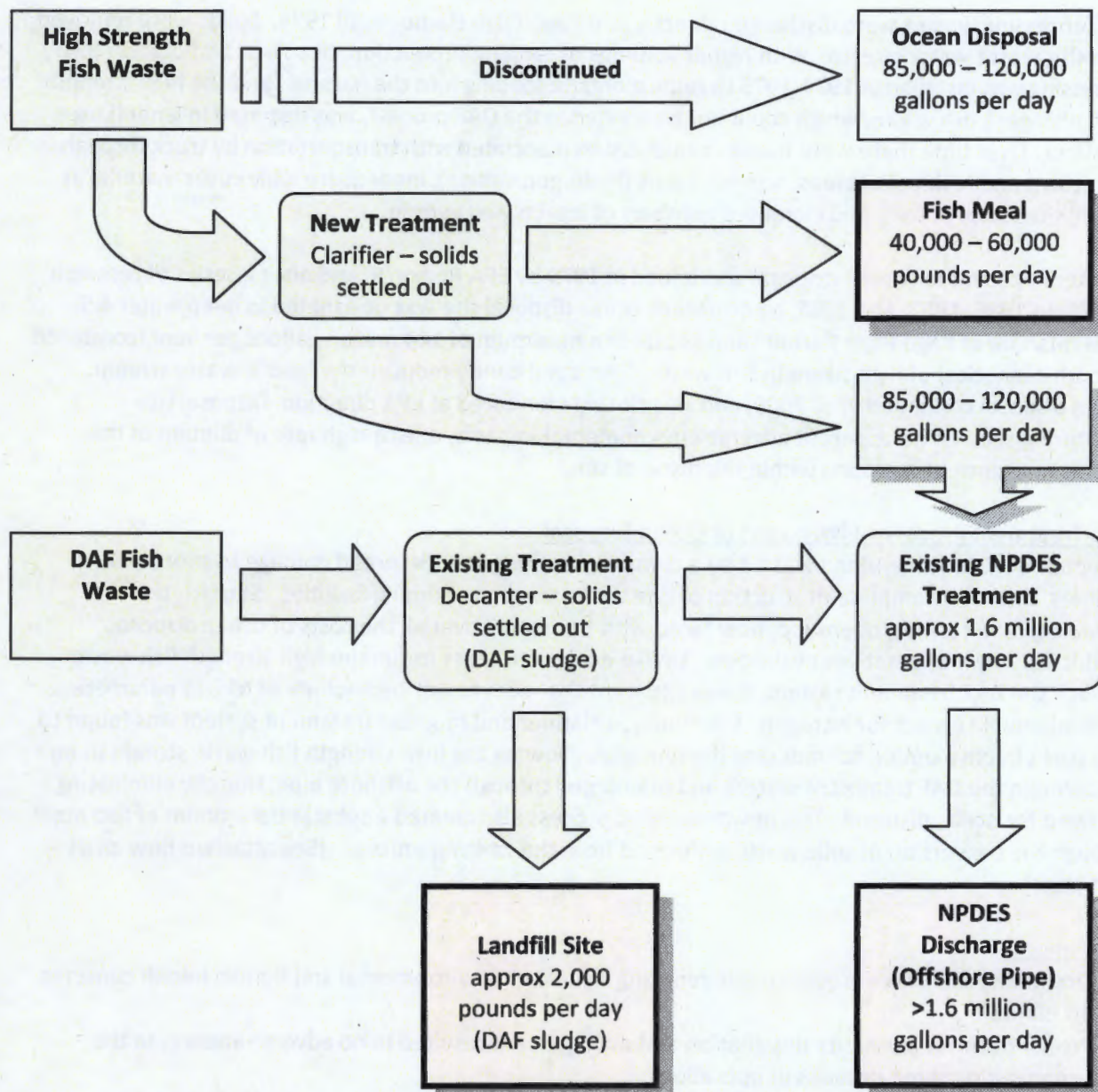
### **Conclusions**

- Ocean disposal was a crucial step in reducing significant environmental and human health concerns on island.
- Proper ocean disposal site designation and management resulted in no adverse impacts to the ocean during three decades of operations.
- Nevertheless, ocean disposal operations for fish waste should be periodically reviewed for new technologies that may allow even ocean disposal to be economically reduced or eliminated.



### New Treatment Process for Fish Waste in American Samoa:

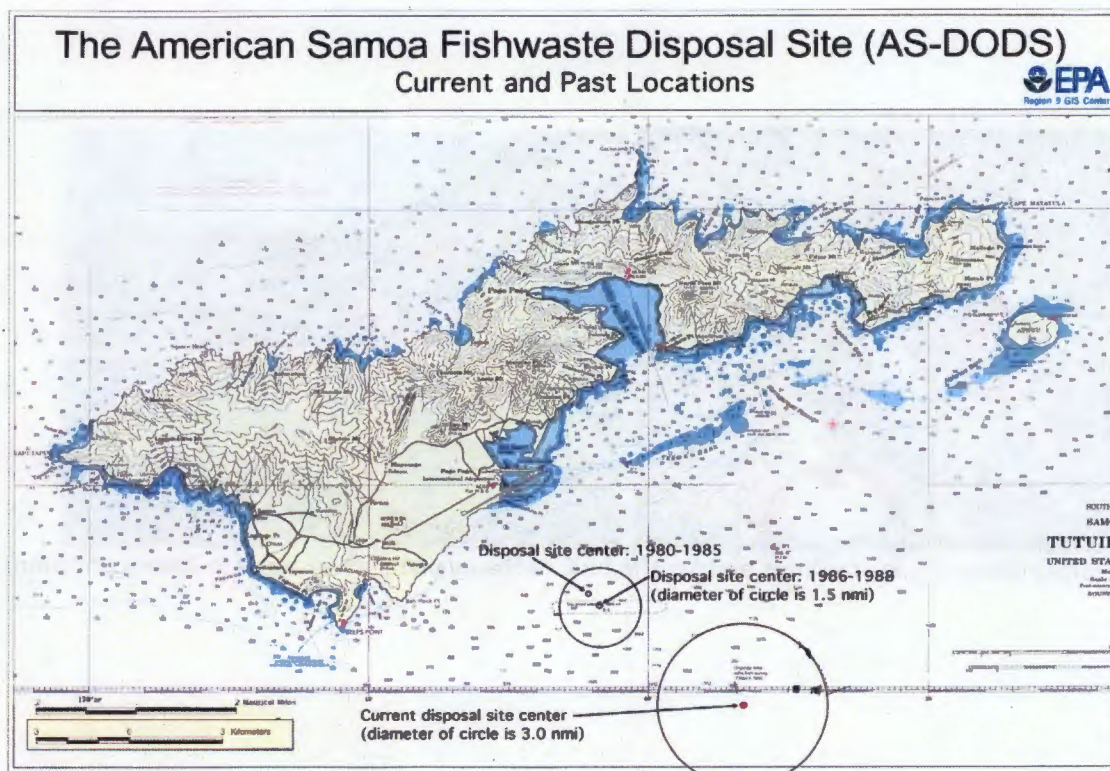
- Elimination of ocean disposal of "high strength" fish waste
- Removal of solids from waste stream
- Treatment and beneficial re-use: conversion of solid waste to fish meal
- Limited disposal at landfill site – for solid waste not suitable for conversion
- Utilizes existing NPDES permit for discharge of treated waste water



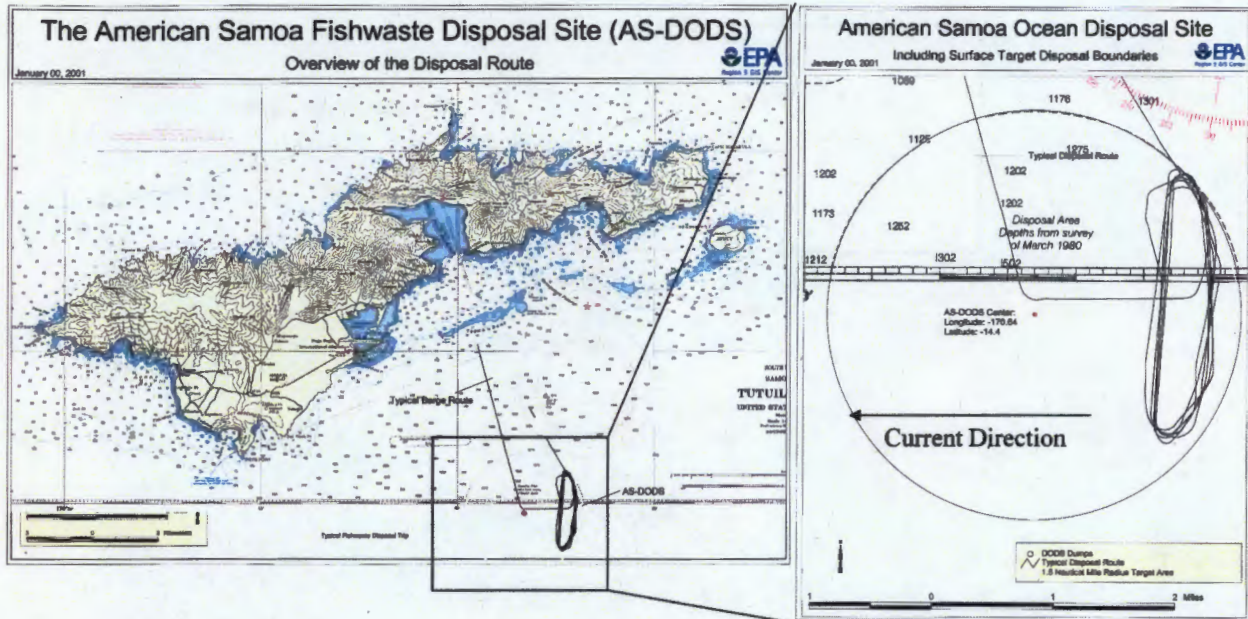




American Samoa, also known as Tutuila Island, is located more than 2,600 nautical miles from the Hawaii Islands







Typical ocean disposal operation – note the transit pattern in the up-current area of the disposal site to maximize dispersion within site boundaries

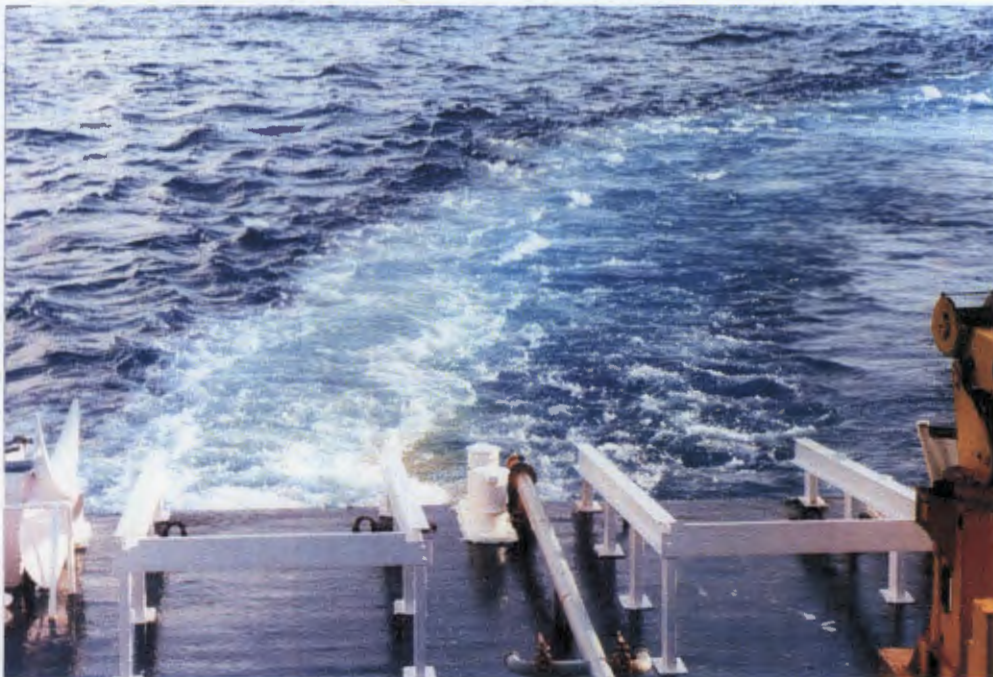


Pago Pago Harbor tuna canning facilities employ the bulk of the available work force in American Samoa





Ocean Disposal - Fish waste discharged directly into the prop wash





OLD

## **American Samoa Fish Waste Management – Elimination of Ocean Disposal – A Success Story**

### **Background / History**

American Samoa (also, known as Tutuila Island) is located over 2,600 nautical miles south-southwest of the Hawaiian Islands. Fish processing operations have existed on the island since World War II. US Navy installations were converted into a tuna processing facility as a pilot project with funding from the Rockefeller Foundation. The first commercial operations started in 1953 (Van Camp Seafoods-Chicken of the Sea) and a second facility opened in 1963 (Starkist). At peak of operations, into mid-2000s, both canneries combined to produce the bulk of the world market share of canned tuna. The canneries also employed the bulk of the available American Samoa work force.

Fish wastes were discharged into Pago Pago Harbor until 1974. Solids were removed from this waste water stream. Dissolved air flotation (DAF) processing was installed in 1974-1975 to reduce organic loading into the harbor. With higher volumes of canning production, the high strength (high nitrogen) fish waste, which could not be treated in the DAF process and discharged with the treated waste water stream, was disposed in landfill sites on island, but over time there were human health issues associated with transportation by truck through downtown and residential areas, noxious odors (hydrogen sulfide), inadequate daily cover material at landfill sites (lack of soil), and increased numbers of insects and vermin. An interim permit for ocean disposal was issued in 1979 by EPA Region 9, and after a series of research permits in 1986, 1987, and 1988, a permanent ocean disposal site was designated for disposal of fish waste. Permitted for disposal of a maximum of 144 million gallons per year (combined for both canneries), disposal site monitoring to date had shown no apparent adverse environmental impacts, due to high rate of dilution of this organic matter to background within the disposal site.

### **New Treatment Process – Elimination of Ocean Disposal**

In September 2009, the island was hit by a tsunami, resulting in widespread damage to shore side facilities, including destruction of one of the two tuna canning facilities. Starkist, the remaining tuna canning operation, faced with a doubling of costs for ocean disposal, restarted an evaluation for an alternative to ocean disposal (initially started in 1997). Following earlier attempts to run the high strength fish waste through the DAF treatment system, it was apparent that all NPDES parameters were attainable except for nitrogen. Eventually, a clarifier and bromine treatment system was found to be a cost effective option for reducing the nitrogen, allowing the high strength fish waste stream to be run through the DAF treatment system and discharged through the offshore pipe, thereby eliminating the need for ocean disposal.

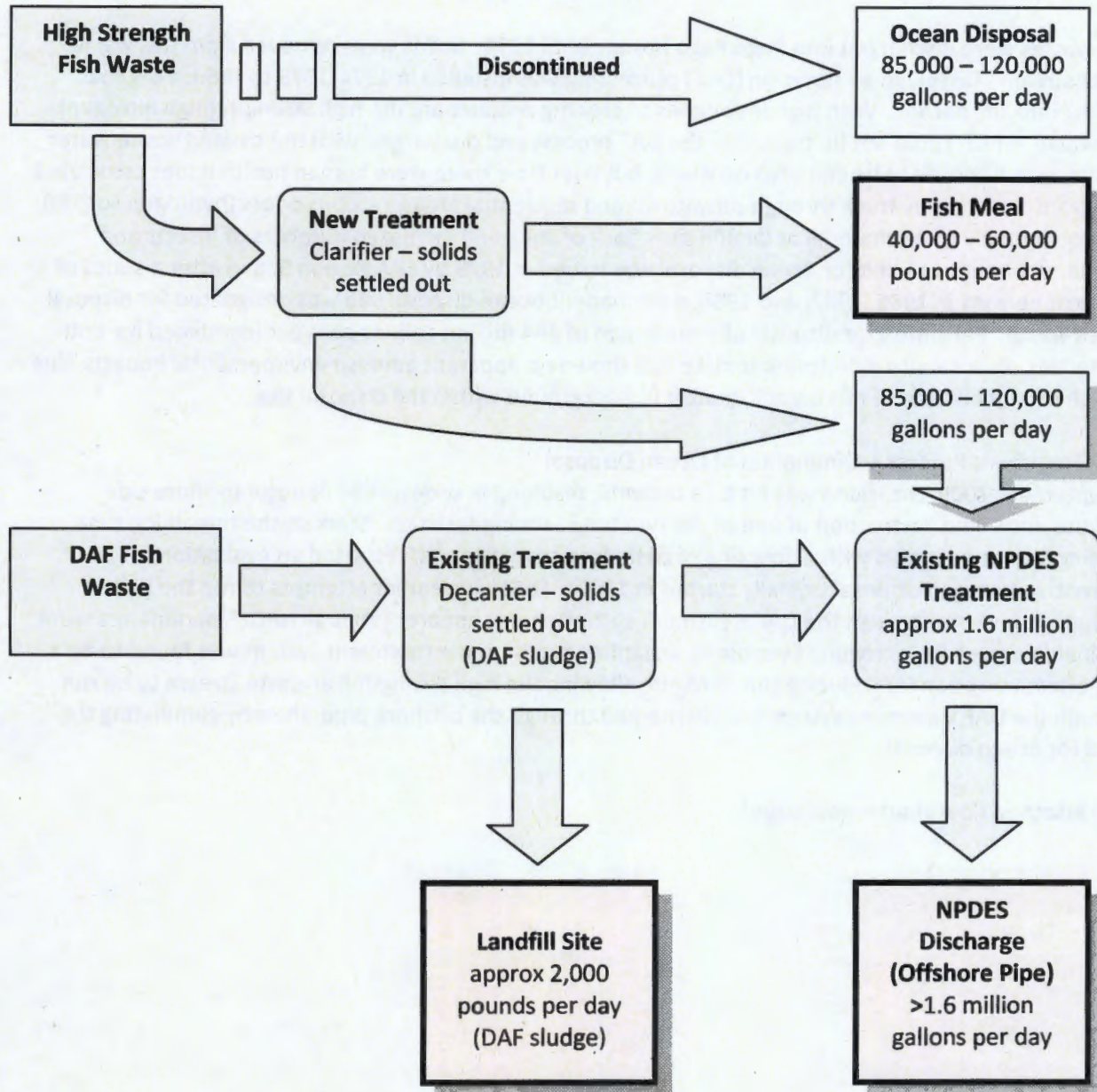
[See attached flow chart – next page]





**New Treatment Process for Fish Waste in American Samoa:**

- Elimination of ocean disposal of "high strength" fish waste
- Removal of solids from waste stream
- Treatment and beneficial re-use: conversion of solid waste to fish meal
- Limited disposal at landfill site – for solid waste not suitable for conversion
- Utilizes existing NPDES permit for discharge of treated waste water





Original waste handling

Pre-cooker water  
Fish meal press water  
DAF sludge

① Ocean dumping ("high strength"; v. high nitrogen)

② Waste water treatment (DAF)

New waste handling:

Clarifier system

- solids settle to bottom → pumped out as a slurry
- clear water from top of system blended into DAF waste stream

85,000 - 120,000 gallons per day → Ocean disposal

DAF sludge

~2,000 pounds of solid waste → landfill

Production up by ~30-40 tons per days compared to what was ~~disposed at~~ taken to the ocean disposal site

1.4 - 1.8 million gallons per day discharged per NPDES  
(2.9 million gallons per day - NPDES permit limit)



40,000 - 60,000 pounds per day removed from original stream → fish meal

(FAT) treatment

New waste handling:

Clarifier system  
- Solids settle to bottom → pumped out as

Clear water from top of system  
- pumped into TAF waste stream

82,000 - 120,000 gallons per day → Ocean disposal

~5,000 pounds of solid waste → landfill  
FAT sludge

Production up by 20-40 tons per day compared to what was ~~the~~ ~~from~~ ~~disposal~~ site taken to the

1.4 - 1.8 million gallons per day discharged for MTR  
(1.4 million gallons per day for MTR)

Trip on Jan 23, 2013

Locator: IOUCFS

Date: Jan 16, 2013

Traveler **ALLAN Y OTA**  
AUTOMATION  
AUTOMATION  
Customer Number **589GLS7**  
Agent **GT**

IN THE FY13 GOVERNMENT CITY PAIR PROGRAM CPP YOUR  
AIR RESERVATION IS SUBJECT TO CANCELLATION BY THE  
AIRLINES IF NOT TICKETED AT LEAST 48 HOURS PRIOR  
TO SCHEDULED DEPARTURE.

\*\*\* DID YOU KNOW WE CAN ALSO BOOK YOUR HOTELS \*\*\*

\*\*\* AND RENTAL CARS \*\*\*

\*TICKET PURCHASED WITH CA.....7634

THIS DOCUMENT BECOMES AN INVOICE WHEN THE PASSENGER

\*NAME/INVOICE AND TICKET NUMBERS APPEAR

\*IN THE PRICING BOX.

\*\*\*\*\*

FEES TOTALING 4.35PP CHARGED IN ADDITION TO TKT PRICE

FEE-USD4.35PP-AIR/AMTRAK DOMESTIC, ONLINE

Wednesday, January 23, 2013

Confirmation **OCUSCH**



**Flight Virgin America 922**

DEPARTURE  
**SAN FRANCISCO/SFO**  
**6:45 AM, Jan 23, 2013**

ARRIVAL  
**LOS ANGELES,CA**  
**8:05 AM, Jan 23, 2013**

Status Confirmed  
Class Coach Class - Y  
Duration 01:20 (Non-stop)  
Equipment Airbus Industrie 320  
Meal Service None  
Reserved Seats 5A (Window)  
Notes DEP-TERMINAL 2  
ARR-TERMINAL 3

Wednesday, January 23, 2013

Confirmation **OCUSCH**



**Flight Virgin America 945**

DEPARTURE  
**LOS ANGELES,CA**  
**7:10 PM, Jan 23, 2013**

ARRIVAL  
**SAN FRANCISCO/SFO**  
**8:30 PM, Jan 23, 2013**

Status Confirmed  
Class Coach Class - Y  
Duration 01:20 (Non-stop)  
Equipment Airbus Industrie 320  
Meal Service None  
Reserved Seats 5A (Window)  
Notes DEP-TERMINAL 3  
ARR-TERMINAL 2

Name	Invoice / Ticket / Date	Base	Tax 1	Tax 2	Tax 3	Total
OTA ALLAN Y	38458/9847197451407/16JAN13	USD 146.98	11.02US	7.80ZP	14.00XT	179.80



Trip Fee	4.35
<b>Total Amount</b>	<b>184.15</b>

Form of Payment: CAXXXXXXXXXXX7634

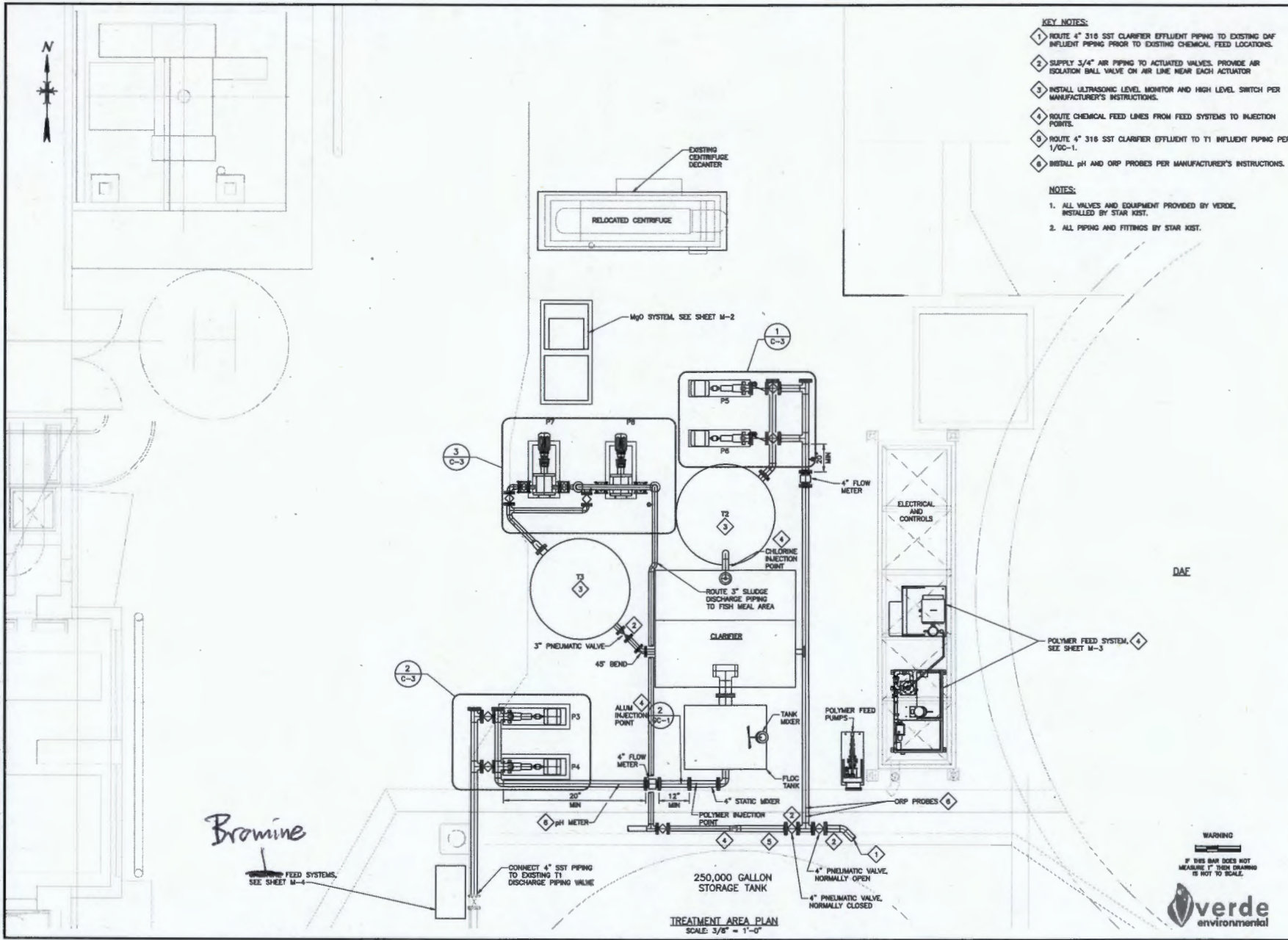
**GENERAL INFORMATION**

THANK YOU FOR USING CWTSATOTRAVEL.  
LOCAL PHONE NUMBER IS 888-728-6377  
YOUR REFERENCE CODE IS \*\*\*SABRE 4MWF\*\*\*  
FARES ARE NOT GUARANTEED UNTIL TICKETED.  
ALL UNUSED TICKETS ARE TO BE RETURNED TO YOUR TMC OR  
TRAVEL COORDINATOR IMMEDIATELY UPON RETURNING OR WHEN  
A TRIP HAS BEEN CANCELLED.  
CHECK-IN FOR ALL FLIGHTS WILL REQUIRE PHOTO ID.  
VERIFY REQUIREMENTS TO INTERNATIONAL DESTINATIONS.  
IF CHANGES NEED TO BE MADE TO YOUR ELECTRONIC  
TICKET RESERVATION, PLEASE CALL SATOTRAVEL  
TO MAKE THOSE CHANGES WHENEVER POSSIBLE.  
TO CANCEL A HOTEL RESERVATION, PLEASE CONTACT SATOTRAVEL  
TO OBTAIN A CANCELLATION TRACKING NUMBER. THIS NUMBER  
WILL BE REQUIRED FOR ANY FUTURE INQUIRIES.  
IN SOME INSTANCES WE MAY NOT BE ABLE TO OBTAIN PRE  
RESERVED SEAT ASSIGNMENTS. IF THIS IS THE CASE  
PLEASE RECEIVE SEAT ASSIGNMENTS AT CHECK IN.  
PLEASE NOTE \*\* EACH TRAVELER LISTED IN THIS ITINERARY  
AGREES TO THE TERMS AND CONDITIONS, WHICH ARE PART OF  
THIS TRANSACTION, AS SET FORTH IN THE AGTS WEB SITE AT  
[WWW.SATOTRAVEL.COM/CONTENT/TERMSITIN.HTM](http://WWW.SATOTRAVEL.COM/CONTENT/TERMSITIN.HTM)

-----  
PLEASE VISIT [WWW.CARLSONWAGONLIT.COM/AIRLINEBAGGAGEFEES](http://WWW.CARLSONWAGONLIT.COM/AIRLINEBAGGAGEFEES)  
FOR INFORMATION ON FREE BAGGAGE ALLOWANCES AND/OR  
APPLICABLE FEES FOR CARRY-ON AND CHECKED BAGGAGE  
RELATED TO YOUR FLIGHT.  
-----

CWTSATOTRAVEL CAN BOOK YOUR HOTEL ACCOMODATIONS. WE CAN ASSIST IN KEEPING COSTS  
WITHIN PER DIEM AT A FEMA APPROVED PROPERTY, GUARANTEE YOUR RESERVATION FOR  
LATE ARRIVAL, AND EVEN CHECK FOR A ROOM AT YOUR FAVORITE HOTEL AT LOW FEDROOM  
OR CWTSATOTRAVEL GOVERNMENT RATES. ALL YOUR RESERVATIONS INCLUDED ON ONE  
ITINERARY--AIR, CAR, AND HOTEL.

THANKS FROM YOUR CWTSATOTRAVEL TEAM!!!



- KEY NOTES:**
1. ROUTE 4" 316 SST CLARIFIER EFFLUENT PIPING TO EXISTING DAF INFLUENT PIPING PRIOR TO EXISTING CHEMICAL FEED LOCATIONS.
  2. SUPPLY 3/4" AIR PIPING TO ACTUATED VALVES. PROVIDE AIR ISOLATION BALL VALVE ON AIR LINE NEAR EACH ACTUATOR
  3. INSTALL ULTRASONIC LEVEL MONITOR AND HIGH LEVEL SWITCH PER MANUFACTURER'S INSTRUCTIONS.
  4. ROUTE CHEMICAL FEED LINES FROM FEED SYSTEMS TO INJECTION POINTS.
  5. ROUTE 4" 316 SST CLARIFIER EFFLUENT TO T1 INFLUENT PIPING PER 1/05-1.
  6. INSTALL pH AND ORP PROBES PER MANUFACTURER'S INSTRUCTIONS.

- NOTES:**
1. ALL VALVES AND EQUIPMENT PROVIDED BY VERDE, INSTALLED BY STAR KIST.
  2. ALL PIPING AND FITTINGS BY STAR KIST.

**WARNING**  
 IF THIS BAR DOES NOT MEASURE 1" THIS DRAWING IS NOT TO SCALE.



**SPF WATER ENGINEERING**  
 300 East Mallard Drive, Suite 350  
 Boise, Idaho 83706  
 Tel (208) 383-4140 Fax (208) 383-4196

**STAR KIST TREATMENT PROJECT  
 TREATMENT AREA PLAN**

**OWNER/DEVELOPER**  
 VERDE ENVIRONMENTAL  
 300 EAST MALLARD DRIVE, STE. 350  
 BOISE, IDAHO 83706  
 PHONE 208-383-4196

**DRAWN BY:** S. BICHNETT  
**CHECKED BY:**  
**SCALE:** AS NOTED  
**PLOT SCALE:** 1:1

DATE	REVISIONS





Oct 08, 2012

Mr. Michael Wolfram  
U. S. EPA Region 9  
Pacific Insular Area Program (CMD-5)  
75 Hawthorne Street  
San Francisco, CA 94105

Dr. Toafa Vaiaga'e  
Director, AS EPA  
Office of the Governor  
EOB Utulei, American Samoa 96799


Gentlemen :

Re : Discharge Monitoring Report for the Months of July, August and September of 2012,  
under NPDES No . AS0000019 as issued to Star Kist Samoa, INC.

Attached is the Star Kist Samoa's Discharge Monitoring Reports covering the months of  
July, August and September of 2012.

Star Kist Samoa met all Effluent limits.

Sincerely,

  
Joe Carney  
Manager , Engineering and Maintenance

Wa \ ls : \ npdes \ samoa

Attachments :

cc :

Mr. Alan Ota  
Mr. Brett Butler



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Form Approved

OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

DISCHARGE MONITORING REPORT (DMR)

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
7/1/2012	7/31/2012

DMR Mailing ZIP CODE: 96799

MAJOR

DISCHARGE 001/MONTHLY

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	82	82		0		
10011 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	90	95	deg F		Continuous	CONTIN
Effluent Gross						30DA AVG	DAILY MX				
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	257.7	279.2		0		
10310 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon.	Req. Mon.	mg/L		Weekly	COMP24
Effluent Gross						MO AVG	DAILY MX				
pH	SAMPLE MEASUREMENT	*****	*****	*****	*****	7.0	7.1		0		
10400 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	6.5	8.6	SU		Continuous	CONTIN
Effluent Gross						MINIMUM	MAXIMUM				
Solids, total suspended	SAMPLE MEASUREMENT	2498.0	2817.1		*****	*****	*****	*****	0		
10530 1 0	PERMIT REQUIREMENT	3960	9960	lb/d	*****	*****	*****	*****		Weekly	COMP24
Effluent Gross		MO AVG	DAILY MX								
Nitrogen, total	SAMPLE MEASUREMENT	958.4	1102.7		*****	*****	*****	*****	0		
10600 1 0	PERMIT REQUIREMENT	1200	2100	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Effluent Gross		MO AVG	DAILY MX								
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	592.4	695.4		*****	55.7	62.4		0		
10610 1 0	PERMIT REQUIREMENT	2016	4045	lb/d	*****	83.36	167.26	mg/L		Weekly	COMP24
Effluent Gross		MO AVG	DAILY MX			30DA AVG	DAILY MX				
Phosphorus, total (as P)	SAMPLE MEASUREMENT	91.4	126.1		*****	*****	*****	*****	0		
10665 1 0	PERMIT REQUIREMENT	192	309	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Effluent Gross		MO AVG	DAILY MX								

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
TYPED OR PRINTED			684-644-4232	10-13-12
			AREA Code	NUMBER
				MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

# DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER

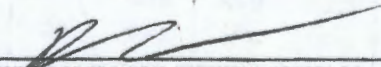
DMR Mailing ZIP CODE: 96799  
MAJOR

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
7/1/2012	7/31/2012

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease	SAMPLE MEASUREMENT	984.7	1082.0		*****	*****	*****	*****	0		
13582 10 Effluent Gross	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	1.339231	1.700000		*****	*****	*****	*****	0		
10050 10 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe. Carney Engineering & Maint TYPED OR PRINTED			684-644-4232	10-13-12	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



Wastewater Summary Report for the month of July 2012

Date	Production Tons	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1		0.100000	31.8	0.8	80	7.0	7.0												
2	392.8817	1.340000	710.2	16.8	80	7.0	7.0												
3	423.4238	1.240000	667.8	16.8	80	7.0	7.0	99.3	1024.0	272.7	2812.0	5.7	58.8	75.0	773.4	52.9	545.5	279.2	2879.1
4	438.7304	1.500000	779.1	20.0	80	7.0	7.0					7.2	89.8	82.0	1022.9				
5	388.0876	1.690000	535.3	14.2	80	7.0	7.0												
6	421.5050	1.510000	436.6	10.9	80	7.0	7.0												
7	408.3661	1.280000	413.4	10.0	80	7.0	7.0												
8		0.900000	286.2	7.3	82	7.0	7.0												
9	386.9174	1.380000	636.0	15.9	80	7.0	7.1												
10	432.6830	1.340000	726.1	18.6	80	7.0	7.0	97.1	1082.0	216.0	2407.0	6.8	75.8	76.0	846.9	62.4	695.4	239.7	2671.1
11	427.5987	1.370000	588.3	13.3	80	7.0	7.0					6.6	75.2	83.0	945.6				
12	414.4326	1.560000	519.4	12.7	80	7.0	7.0												
13	419.1640	1.250000	408.1	8.5	80	7.0	7.0												
14																			
15																			
16	405.2445	1.360000	482.3	11.0	80	7.0	7.0												
17	420.9512	1.330000	747.3	19.3	80	7.0	7.0	79.9	883.7	254.7	2817.1	11.4	126.1	86.0	951.2	60.8	672.5	273.1	3020.6
18	428.3702	1.700000	795.0	17.9	80	7.0	7.0					6.9	97.5	78.0	1102.7				
19	407.7828	1.620000	503.5	12.1	80	7.0	7.0												
20	403.9168	1.460000	572.4	13.8	80	7.0	7.1												
21																			
22																			
23	363.2459	1.050000	153.7	4.4	80	7.0	7.0												
24	342.1337	1.180000	731.4	18.2	80	7.0	7.1	96.7	948.9	199.3	1955.7	10.3	101.1	99.0	971.5	46.5	456.3	238.9	2344.3
25	363.0318	1.490000	842.7	19.7	80	7.0	7.1					8.6	106.6	85.0	1053.2				
26	423.8483	1.490000	498.2	11.4	80	7.1	7.1												
27	423.2036	1.620000	689.0	16.6	80	7.0	7.1												
28	395.3021	1.500000	392.2	9.9	80	7.0	7.1												
29																			
30	401.8434	1.090000	408.1	9.3	80	7.0	7.1												
31	419.8793	1.470000	784.4	19.0	80	7.0	7.1												
TOT	9752.5441	34.820000	14338.5	348.4					3938.6		9991.8		730.8		7667.4		2369.6		10915.0
AVG	406.3560	1.339231	551.5	13.4	82			93.3	984.7	235.7	2498.0	7.9	91.4	83.0	958.4	55.7	592.4	257.7	2728.8



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC

ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 96799  
MAJOR

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
8/1/2012	8/31/2012

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	80	80		0		
10011 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
30D, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	361.2	454.7		0		
10310 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	7.0		7.1		0		
10400 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	6.5 MINIMUM		8.8 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	3550.8	7485.5		*****	*****	*****	*****	0		
10530 10 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	1197.0	1907.3		*****	*****	*****	*****	0		
10600 10 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	865.2	1273.5		*****	74.2	91.7		0		
10610 10 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	148.9	259.7		*****	*****	*****	*****	0		
10665 10 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE	DATE
Joe. Carney Engineering & Maint		84-644-4232	10-13-12
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER
			MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
 ADDRESS: P O BOX 368  
 PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY

LOCATION: ATU'U, MAOPUTASI  
 PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER

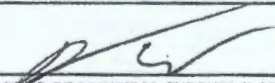
DMR Mailing ZIP CODE: 96799  
 MAJOR

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
8/1/2012	8/31/2012

DISCHARGE 001/MONTHLY  
 External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease 13582 1 0 Effluent Gross	SAMPLE MEASUREMENT	1007.4	1198.5		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant 10050 1 0 Effluent Gross	SAMPLE MEASUREMENT	1.455000	1.740000		*****	*****	*****	*****	0		
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE	
Joe Carney Engineering & Maint TYPED OR PRINTED			684-644-4232	10-7-12	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



## Wastewater Summary Report for the month of August 2012

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	Total #/day	Eff mg/L	Total #/day
1	452.2158	1.220000	24732.1	17.8	80	7.0	7.1	95.6	969.9	269.3	2732.2	9.8	99.4	94.0	953.7	66.7	676.7	374.3	3797.5
2	463.8433	1.590000	593.6	13.5	80	7.0	7.0					7.8	103.1	79.0	1044.6				
3	469.7151	1.670000	519.4	12.3	80	7.0	7.0												
4	412.6168	1.490000	397.5	10.4	80	7.0	7.1												
5																			
6	436.5309	1.320000	461.1	11.0	80	7.0	7.0												
7	427.9103	1.300000	891.4	20.7	80	7.0	7.1	85.9	928.6	205.3	2219.5	8.9	96.2	84.0	908.1	69.8	754.6	356.3	3851.9
8	451.3871	1.680000	630.7	15.1	80	7.0	7.1					7.5	104.8	79.0	1103.7				
9	422.1110	1.740000	630.7	15.7	80	7.0	7.0												
10	429.9909	1.330000	360.4	8.5	80	7.0	7.0												
11																			
12																			
13	406.7096	0.860000	376.3	8.9	80	7.0	7.1												
14	438.7413	1.180000	429.3	10.2	80	7.0	7.1	91.8	900.8	206.0	2021.5	9.1	89.3	95.0	932.2	72.4	710.5	391.3	3839.8
15	431.6429	1.640000	805.6	21.0	80	7.0	7.1					8.0	109.1	82.0	1118.3				
16	433.9068	1.630000	673.1	16.5	80	7.1	7.1												
17	440.9975	1.520000	429.3	10.4	80	7.0	7.1												
18	415.7049	1.010000	3841.6	9.6	80	7.0	7.1												
19																			
20	416.7645	1.200000	625.4	16.2	80	7.0	7.1												
21	402.6349	1.560000	842.7	20.3	80	7.0	7.0	80.1	1039.1	254.0	3295.1	13.3	172.5	93.0	1206.5	70.2	910.7	229.4	2976.0
22	427.5687	1.740000	757.9	20.2	80	7.0	7.1					15.2	219.9	79.0	1143.1				
23	413.3802	1.690000	673.1	19.0	80	7.0	7.1												
24	415.8138	1.610000	508.8	12.5	80	7.0	7.0												
25		0.540000	227.9	4.9	80	7.0	7.0												
26																			
27	403.9613	1.030000	651.9	14.7	80	7.0	7.0												
28	403.1611	1.670000	795.0	18.3	80	7.0	7.0	86.3	1198.5	539.0	7485.5	18.7	259.7	119.0	1652.6	91.7	1273.5	454.7	6314.7
29	429.9492	1.650000	773.8	20.3	80	7.0	7.0					17.1	234.6	139.0	1907.3				
30	446.5917	1.590000	805.6	18.6	80	7.0	7.0												
31	446.5450	1.660000	795.0	20.3	80	7.0	7.0												
TOT	10740.3946	37.120000	43229.2	386.9					5037.0		17753.7		1488.8		11970.1		4326.0		20779.9
AVG	429.6158	1.455000	2111.0	14.4	80			87.9	1007.4	294.7	3550.8	11.5	148.9	94.3	1197.0	74.2	865.2	361.2	4156.0



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

ATTN: MR. JOE CARNEY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

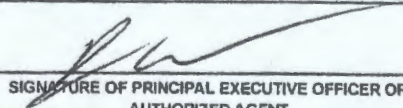
AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
9/1/2012	9/30/2012

DMR Mailing ZIP CODE: 96799  
MAJOR

DISCHARGE 001/MONTHLY  
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****	*****	*****	81	82		0		
00111 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	90 30DA AVG	95 DAILY MX	deg F		Continuous	CONTIN
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	*****	*****	*****	*****	595.8	666.7		0		
00310 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
pH	SAMPLE MEASUREMENT	*****	*****	*****	*****	7.0	*****		0		
00400 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	6.5 MINIMUM	8.6 MAXIMUM	SU		Continuous	CONTIN
Solids, total suspended	SAMPLE MEASUREMENT	3254.4	5598.1		*****	*****	*****	*****	0		
00530 10 Effluent Gross	PERMIT REQUIREMENT	3960 MO AVG	9960 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	COMP24
Nitrogen, total	SAMPLE MEASUREMENT	1162.1	1383.8		*****	*****	*****	*****	0		
00600 10 Effluent Gross	PERMIT REQUIREMENT	1200 MO AVG	2100 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	1118.4	1151.5		*****	82.6	91.7		0		
00610 10 Effluent Gross	PERMIT REQUIREMENT	2016 MO AVG	4045 DAILY MX	lb/d	*****	83.36 30DA AVG	167.26 DAILY MX	mg/L		Weekly	COMP24
Phosphorus, total (as P)	SAMPLE MEASUREMENT	183.0	247.3		*****	*****	*****	*****	0		
00665 10 Effluent Gross	PERMIT REQUIREMENT	192 MO AVG	309 DAILY MX	lb/d	*****	*****	*****	*****		Twice Per Week	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Joe Carney Engineering & Maint			684-644-4232	10/13/12
TYPED OR PRINTED			AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

OMB No. 2040-0004

NAME: STAR-KIST SAMOA, INC  
ADDRESS: P O BOX 368  
PAGO PAGO, AS 96799

AS0000019	001-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 96799  
MAJOR

FACILITY: STAR-KIST SAMOA TUNA CANNERY  
LOCATION: ATU'U, MAOPUTASI  
PAGO PAGO, AS 96799

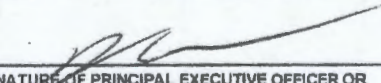
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
9/1/2012	9/30/2012

DISCHARGE 001/MONTHLY  
External Outfall

ATTN: MR. JOE CARNEY

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Oil and grease	SAMPLE MEASUREMENT	999.0	1154.0		*****	*****	*****	*****	0		
13582 10 Effluent Gross	PERMIT REQUIREMENT	1008 MO AVG	2520 DAILY MX	lb/d	*****	*****	*****	*****		Weekly	GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	1.320385	1.680000		*****	*****	*****	*****	0		
10050 10 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****	*****		Continuous	METER

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Joe. Carney Engineering & Main			684-644-4232	10-13-12
TYPED OR PRINTED			AREA Code	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**Wastewater Summary Report for the month of September 2012**

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	TONS	mgd	#/day	#/day	F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	Total #/day	Eff mg/L	Total mg/l
1	420.5035	1.490000	699.6	16.9	80	7.0	7.0												
2																			
3																			
4	439.2742	1.480000	773.8	18.5	80	7.0	7.0												
5	439.3092	1.680000	816.2	19.5	80	7.0	7.1	82.6	1154.0	400.7	5598.1	17.7	247.3	95.0	1327.2	79.5	1110.7	515.8	7206.2
6	435.0748	1.600000	704.9	17.6	80	7.0	7.1					16.3	216.9	104.0	1383.8				
7	443.3911	1.670000	784.4	18.8	80	7.0	7.1												
8	420.4191	1.280000	736.7	16.9	80	7.0	7.0												
9		0.220000	111.3	2.5	82	7.0	7.0												
10	432.2303	1.180000	418.7	10.0	82	7.0	7.0												
11	437.2199	1.420000	784.4	18.8	80	7.0	7.0	91.4	1079.3	266.7	3149.4	19.1	225.5	100.0	1180.9	90.0	1062.8	571.0	6742.8
12	433.0196	1.520000	731.4	17.6	80	7.0	7.0					18.3	231.3	107.0	1352.5				
13	446.4034	1.610000	752.6	20.2	80	7.0	7.0												
14	427.0357	1.240000	408.1	9.3	80	7.0	7.0												
15																			
16																			
17	445.0064	1.210000	556.5	13.3	80	7.0	7.0												
18	439.7419	1.550000	821.5	20.2	80	7.0	7.1												
19	443.0418	1.510000	837.4	20.2	80	7.0	7.0	72.2	906.6	176.7	2218.9	15.1	189.6	99.0	1243.2	91.7	1151.5	666.7	8371.9
20	443.3707	1.480000	848.0	19.9	80	7.0	7.0					11.9	146.5	87.0	1070.8				
21	447.8844	1.540000	752.6	17.5	82	7.0	7.0												
22	443.5671	1.190000	572.4	14.0	82	7.0	7.0												
23		0.540000	174.9	4.2	80	7.0	7.0												
24	419.1704	1.030000	503.5	11.6	80	7.0	7.1												
25	441.6751	1.440000	810.9	20.3	80	7.0	7.1	71.5	856.2	171.3	2051.3	9.1	109.0	81.0	970.0	69.2	828.7	629.6	7539.5
26	442.9824	1.400000	625.4	15.2	80	7.0	7.1					8.4	97.8	66.0	768.4				
27	419.3863	1.580000	816.2	19.6	80	7.0	7.1												
28	427.7969	1.560000	588.3	13.5	80	7.0	7.1												
29	428.7136	1.310000	524.7	13.4	80	7.0	7.1												
30		0.600000	360.4	8.7	80	7.0	7.1												
TOT	10016.2178	34.330000	16514.8	398.2					3996.2		13017.7		1463.9		9296.7		4153.6		29860.3
AVG	435.4921	1.320385	635.2	15.3	81			83.4	999.0	253.9	3254.4	17.9	183.0	116.8	1162.1	82.6	1038.4	595.8	7465.1





RE: Waste water treatment process and status of future need for ocean disposal site - additional follow up questions

Carney, Joe

to:

Allan Ota

01/10/2013 01:24 PM

Hide Details

From: "Carney, Joe" <Joe.Carney@StarKist.com>

To: Allan Ota/R9/USEPA/US@EPA,

## 2 Attachments



new treatment plant.pdf NPDES for July August and September 2012.pdf



Hi Allen

I will try and answer your questions with a better description.

1. The plant originally had two waste disposal operations the Ocean dumping and the waste water treatment plant (DAF) outfall line under our NPDES permit. What we called high strength waste was Ocean dumped only because the nitrogen levels were too high to process through the DAF we could not meet our NPDES permit limits for Nitrogen this stream originally consisted of pre-cooker water, fish meal press water (the water from the press after the oil is removed) and the DAF sludge. The DAF processes all of our process water everything in the plant other than the stream mentioned for Ocean disposal and Sanitary sewer (bathrooms, Cafeteria etc) they go to the city sewer system.
2. The new treatment system for what used to be Ocean Disposed is a **Clarifier system** where the solids settle to the bottom of the clarifier and are pumped out as a slurry the clear water from the top of the system is then blended in the DAF with the other waste stream. Let me go step by step on the new system.

The pre-cooker water and press liquid are pumped to the original holding tank just prior to the stream entering the tank we are injecting Magnesium Hydroxide (30% solution at 3 gallons per minute) into the stream this starts the flocking process. We then pump out of the tank and add in a polymer (1 to 2 PPM) to bind the flock together and this goes to a flock tank from the flock tank the stream goes into the clarifier in the clarifier the solids are all pulled together and settle to the bottom of the system. The solids slurry is pumped to a small holding tank and then pumped to the fishmeal plant for dewatering and blending back into the fish meal. The clear water from the top of the clarifier is gravity fed to another holding tank where we inject a Bromine solution the Bromine neutralizes the remaining nitrogen that is in the water. This is then pumped to the center of the DAF and processed with the rest of the normal waste water. The DAF flow ranges from 1200 to 1500 gallons per minute and the new system runs at 85 gallons per minute so we are blending a very small stream into a large stream. Both systems run at the same time we do not run the new system if the DAF is not running. The DAF sludge (solids Slurry) that used to be included in the Ocean disposal is now ran through a **decanter** where all of the water is removed this stream as a liquid used to be 12 to 15 thousand gallons a day now as a solid it is app. 2000 pounds per day and is disposed of at the local landfill. The total waste stream that used to be Ocean dumped was between 85,000 and 120,000 gallons per day we now have only the 2000 pounds going to the landfill.

3. I have attached a drawing of the new system for you. All of our waste is treated. Please note where it says Chlorine injection on the drawing it is actually Bromine we do not use chlorine.
4. I have attached our last quarterly DMRs they have the Permit Limits on them and our actual levels.
5. Production is up by about 30 to 40 tons per day from when we Ocean disposed of this.
6. As Far as waste generated we have eliminated Ocean Dumping there is an increase in the DAF flow by



85 to 120 thousand gallons per day we are Permitted to run 2.9 million gallons a day and run between 1.4 and 1.8 million depending on how much it rains.

7. On the solids removed from the clarifier it is between 5 and 7 percent solids so it is some were between 40 and 60 thousand pounds per day we are removing from the original stream and putting back into fish meal. This used to go into the Ocean when we Ocean disposed of this along with the DAF sludge that goes to the Landfill 2000 pounds of Solids.

Just a little history on this I started looking for a way to eliminate Ocean Dumping shortly after I started working here back in 1997 there were other options but they were cost prohibitive millions of dollars of capital. In 2000 with the permission of USEPA region 9 we ran test with the high strength running it straight through the DAF with our other waste stream we were able to meet all NPDES permit limits except for nitrogen we could not get the nitrogen levels low enough so I kept looking and again everything was to high of a cost then after Samoa packing closed we had to take on the full cost of the vessel instead of paying 50% we had to pay 100% doubling our cost of disposal then I started looking again and this is what we came up with knowing that the nitrogen was the critical item we needed to address the Clarifier and Bromine system was the best option and it was cost effective from a capital standpoint .

I hope this answers your questions if you have any more please let me know If you want we can discuss this on the phone.

Thanks Joe

---

**From:** Ota.Allan@epamail.epa.gov [mailto:Ota.Allan@epamail.epa.gov]

**Sent:** Wednesday, January 09, 2013 7:14 AM

**To:** Carney, Joe

**Subject:** Fw: Waste water treatment process and status of future need for ocean disposal site - additional follow up questions

Hi, Joe.

I am just checking in with you to see if you have answers and additional information for me (below). I need to submit a "success story" update to my headquarters contact by next week.

Thank you for your assistance with this,  
Allan

\*\*\*\*\*  
Allan Ota  
Oceanographer / Regional Ocean Dumping Program Coordinator  
Dredging and Sediment Management Team (WTR-8)  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

=====  
415-972-3476 office  
415-947-3537 fax  
ota.allan@epa.gov  
=====

----- Forwarded by Allan Ota/R9/USEPA/US on 01/09/2013 10:10 AM -----

From: Allan Ota/R9/USEPA/US  
To: "Carney, Joe" <Joe.Carney@StarKist.com>,  
Date: 12/14/2012 12:06 PM



Subject: RE: Waste water treatment process and status of future need for ocean disposal site - additional follow up questions

---

Hi, Joe.

Thank you for the information. I guess I need a few more details, as they come to mind at the moment.

1. Just to be clear in my mind, it would be good to be explicit about the three waste streams that are generated from the overall fish processing. It sounds like the DAF not treated initially, but you mention the treated waste stream being "blended" back into the DAF and then there is a DAF treatment. So, I am not clear on what may be going through the "new" treatment system and what may be going through another "regular" (?) treatment process.
2. If you can provide a graphic (process flow chart), that would be helpful, but at least please clarify what happens to each waste stream (i.e., what is treated, and what may/is not be treated).
3. Also, what are the NPDES limits (the parameters) that are being met? I am not familiar with the permit, so having that information on what parameters are being met would be helpful.
4. Finally, how does overall production compare between when you had ocean disposal option and now with the new treatment process, that is, are you at the same production rate as before or is it reduced at the moment?
5. In terms of waste stream generated, is the overall waste stream volume reduced, relative to the solid portion removed?
6. Also, what is the volume or weight of solid waste removed (or recycled, as fish meal?)? - I ask this because any kind of recycling (i.e., fish meal) for beneficial purposes is considered a great thing for EPA.

If I have other questions to follow up, I'll get back to you. Thank you for your attention to this.

Best regards,  
Allan

\*\*\*\*\*  
Allan Ota  
Oceanographer / Regional Ocean Dumping Program Coordinator  
Dredging and Sediment Management Team (WTR-8)  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

=====  
415-972-3476 office  
415-947-3537 fax  
ota.allan@epa.gov  
=====

From: "Carney, Joe" <Joe.Carney@StarKist.com>  
To: Allan Ota/R9/USEPA/US@EPA, "Carney, Joe" <Joe.Carney@StarKist.com>,  
Date: 12/14/2012 10:37 AM  
Subject: RE: Waste water treatment process and status of future need for ocean disposal site

---

Hi Allen

What we are using is a basic clarifier system to capture and settle the solids.

The system works as follows

The waste stream is pumped to the original tank as the stream enters the tank we are injecting Magnesium Hydroxide into it at a rate of 3 gallons per minute this is to raise the PH and start a flock.

We then pump from the tank and inject a polymer into the stream 2 PPM and run it through an inline blender the stream then goes to a small flock tank, From the flock tank it goes to the main clarifier tank where the fine solids are settled out. The solids slurry is then pumped to a holding tank and pumped back to the fish meal plant where it is ran through a special small screw press the solids from this press are added back to the fish meal the liquid is pumped back to the tank for re-treatment. The clear liquid from the top of the clarifier goes to another holding tank where a Bromine solution is added into the stream to neutralize the remaining nitrogen and phosphorus it is then pumped to the DAF and is blended with our normal waste water stream treated and after DAF treatment pumped out the outfall line.

We are meeting all of our NPDES Permit limits with this system.

The flow rate on the treatment system is around 80 gallons per minute it is a very small part of our current 1,200 to 1,500 gallon per minute DAF flow rate.

Please let me know if you need anything else.

Joe

**From:** Ota.Allan@epamail.epa.gov [mailto:Ota.Allan@epamail.epa.gov]

**Sent:** Wednesday, December 12, 2012 10:40 AM

**To:** Carney, Joe

**Subject:** RE: Waste water treatment process and status of future need for ocean disposal site

Thank you, Joe! This will be very helpful for meeting a headquarters request.

Best regards,

Allan

\*\*\*\*\*

Allan Ota

Oceanographer / Regional Ocean Dumping Program Coordinator

Dredging and Sediment Management Team (WTR-8)

U.S. Environmental Protection Agency, Region 9

75 Hawthorne Street

San Francisco, CA 94105

=====

415-972-3476 office

415-947-3537 fax

ota.allan@epa.gov

=====

From: "Carney, Joe" <Joe.Carney@StarKist.com>

To: Allan Ota/R9/USEPA/US@EPA,

Date: 12/12/2012 12:42 PM

Subject: RE: Waste water treatment process and status of future need for ocean disposal site

Allen I will get this to you

Thanks Joe

**From:** Ota.Allan@epamail.epa.gov [mailto:Ota.Allan@epamail.epa.gov]

**Sent:** Wednesday, December 12, 2012 9:22 AM

**To:** Carney, Joe

**Subject:** RE: Waste water treatment process and status of future need for ocean disposal site



Hi, Joe.

I have been asked by our headquarters to provide a success story for our Ocean Dumping program. Apparently, one of our headquarters staff was out in American Samoa, toured the facility, and heard about the new fishwaste processing system, eliminating the need for ocean disposal. Not a lot of details were given on the tour, and the assumption was that I was fully aware of details of this new system. When I asked you about the status of the new processing system, you had indicated that you had discussed this with me. I don't recall getting any details directly and the only message I could find, dating back to the summer had this quote from you (June 26, 2012 e-mail): "We have the new system on line and it is working very well. We have been running it for over two weeks and we are well below our NPDES Permit limits on all counts." So, basically, I don't know anything about this treatment process, such that I could provide a success story to our headquarters.

I am requesting more details from you so I can prepare a success story for our headquarters. Specifically, please provide a description of the system (i.e., what is this system called and how the treatment process works, as far as breaking down the waste such that it can be discharged into the harbor), volumes being processed, and some summary details of how the waste meets the appropriate water quality standards or permit limits. Any industry-type fact sheet(s) would also be helpful.

I am on a relatively short time frame for this (end-of-year reporting for our program), so hopefully you have some readily available information that you can send me.

Thank you for your attention to this.

Best regards,  
Allan

\*\*\*\*\*  
Allan Ota  
Oceanographer / Regional Ocean Dumping Program Coordinator  
Dredging and Sediment Management Team (WTR-8)  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

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415-972-3476 office  
415-947-3537 fax  
ota.allan@epa.gov  
=====

From: "Carney, Joe" <Joe.Carney@StarKist.com>  
To: Allan Ota/R9/USEPA/US@EPA,  
Date: 12/05/2012 10:35 AM  
Subject: RE: Waste water treatment process and status of future need for ocean disposal site

---

Allen

As discussed with you on an earlier email.

The processing system is running very well and we are meeting all of our NPDES limits with the new system in place.

The vessel is no longer used.

I am not sure of its location I HEARD IT WAS GOING BACK TO Seattle WA.

Thanks Joe

**From:** Ota.Allan@epamail.epa.gov [mailto:Ota.Allan@epamail.epa.gov]  
**Sent:** Wednesday, December 05, 2012 6:33 AM  
**To:** Carney, Joe  
**Subject:** Waste water treatment process and status of future need for ocean disposal site

Hi, Joe.

I've heard rumors about a new waste water treatment process, which is intended to eliminate the need for using the fishwaste ocean disposal site. How is that coming along? And will the other cannery be using this as well? Lastly, with the ocean disposal tracking system on its way back to SAIC on the East Coast, is the disposal vessel no longer operating in American Samoa, and gone to some other location?

Thank you for your attention to this,  
Allan

\*\*\*\*\*  
Allan Ota  
Oceanographer / Regional Ocean Dumping Program Coordinator  
Dredging and Sediment Management Team (WTR-8)  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

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415-972-3476 office  
415-947-3537 fax  
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From: "Carney, Joe" <Joe.Carney@Starkist.com>  
To: Allan Ota/R9/USEPA/US@EPA,  
Cc: "Butler, Brett" <Brett.Butler@Starkist.com>, "Neligan, Richard" <Richard.Neligan@Starkist.com>, "Pace, Stephen D." <STEPHEN.D.PACE@saic.com>  
Date: 06/27/2012 11:43 AM  
Subject: RE: Re-installation of tracking equipment on the Blue Moon

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Hi Allen

We will Monitor for July and that will be the last one. Just to be clear we do not need to send in the DMRs with no flow on them?

Can we make a decision on the permit When I get back from vacation I will contact you in August if that is ok. The plant next door is not processing anything at this time. I am not sure what they have planned for the future disposal when they do start back up.

Please Let me know if you need anything else. Or need a contact for next door.

Thanks Again Joe

**From:** Allan Ota [mailto:Ota.Allan@epamail.epa.gov]  
**Sent:** Wednesday, June 27, 2012 3:28 AM  
**To:** Carney, Joe  
**Cc:** Butler, Brett; Neligan, Richard; Pace, Stephen D.  
**Subject:** RE: Re-installation of tracking equipment on the Blue Moon

No further ocean dumping reporting is required. In fact, we can terminate the ocean dumping permit. Do you know if the other cannery is also using the same system?

\*\*\*\*\*



Allan Ota  
 Oceanographer / Regional Ocean Dumping Program Coordinator  
 Dredging and Sediment Management Team (WTR-8)  
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 75 Hawthorne Street  
 San Francisco, CA 94105

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415-972-3476 office  
 415-947-3537 fax  
 ota.allan@epa.gov

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From: "Carney, Joe" <Joe.Carney@StarKist.com>  
 To: Allan Ota/R9/USEPA/US@EPA, "Pace, Stephen D." <STEPHEN.D.PACE@saic.com>,  
 Cc: "Butler, Brett" <Brett.Butler@StarKist.com>, "Neligan, Richard" <Richard.Neligan@StarKist.com>  
 Date: 06/26/2012 07:30 PM  
 Subject: RE: Re-installation of tracking equipment on the Blue Moon

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Allen

We have the new system on line and it is working very well. We have been running it for over two weeks and we are well below our NPDES Permit limits on all counts.

My question is do we need to keep doing the Ocean Monitoring report we will do it in July even if there is no disposal but after July going forward do we keep doing the report and send it in with our DMR reports we will put NO FLOW on the DMR reports.

Can you please advise us of what needs to be done.

Thanks Joe

**From:** Ota.Allan@epamail.epa.gov [<mailto:Ota.Allan@epamail.epa.gov>]  
**Sent:** Wednesday, September 07, 2011 5:18 AM  
**To:** Pace, Stephen D.  
**Cc:** Carney, Joe  
**Subject:** RE: Re-installation of tracking equipment on the Blue Moon

I concur that installation should proceed. The data should be collected until the new system comes on line.

\*\*\*\*\*

Allan Ota  
 Oceanographer / Regional Ocean Dumping Program Coordinator  
 Dredging and Sediment Management Team (WTR-8)  
 U.S. Environmental Protection Agency, Region 9  
 75 Hawthorne Street  
 San Francisco, CA 94105

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415-972-3476 office  
 415-947-3537 fax  
 ota.allan@epa.gov

=====

From: "Pace, Stephen D." <STEPHEN.D.PACE@saic.com>  
To: "Carney, Joe" <Joe.Carney@Starkist.com>  
Cc: Allan Ota/R9/USEPA/US@EPA  
Date: 09/07/2011 05:52 AM  
Subject: RE: Re-installation of tracking equipment on the Blue Moon

---

Hi, Joe

I believe we're going to proceed with the installation on board the Blue Moon, soon.

**From:** Carney, Joe [<mailto:Joe.Carney@Starkist.com>]  
**Sent:** Tuesday, September 06, 2011 8:27 PM  
**To:** Pace, Stephen D.  
**Cc:** Ota.Allan@epamail.epa.gov  
**Subject:** RE: Re-installation of tracking equipment on the Blue Moon

Hi

We are working on a project that would eliminate Ocean Dumping at the Starkist plant.

The new process will remove the solids, oil/grease. Nitrogen and phosphorus etc. from the waste stream we would then run the treated clean stream through our DAF and the outfall line covered under our NPDES permit we would stay well below the limits in the permit.

If this project goes through we would expect to have it in operation around Feb. or March 2012.

With this in mind you may want to wait to install the equipment on the vessel.

Please let me know your thoughts on this.

Thanks Joe

**From:** Pace, Stephen D. [<mailto:STEPHEN.D.PACE@saic.com>]  
**Sent:** Tuesday, August 30, 2011 6:35 AM  
**To:** Carney, Joe  
**Cc:** Ota.Allan@epamail.epa.gov  
**Subject:** Re-installation of tracking equipment on the Blue Moon

Hi, Joe

I'm making plans to reinstall the tracking equipment on the Blue Moon the end of September. At this point, I'd fly into PPG Sept 26<sup>th</sup>, and have a few days to complete the installation and testing of the gear. Allan would also like me to provide some instruction on how to enter plant data into the web site.

How would this schedule work for you?

Thanks for your help,

Regards,  
Steve Pace



# **Fish Waste Disposal in the Pacific Region of the United States**

## **A Permitting Case Study**

**28<sup>th</sup> Session of the London Convention Scientific Group**

**June 5-9, 2006**

**Dalian, China**



# **Fishwaste Disposal in the Pacific Region of the United States**

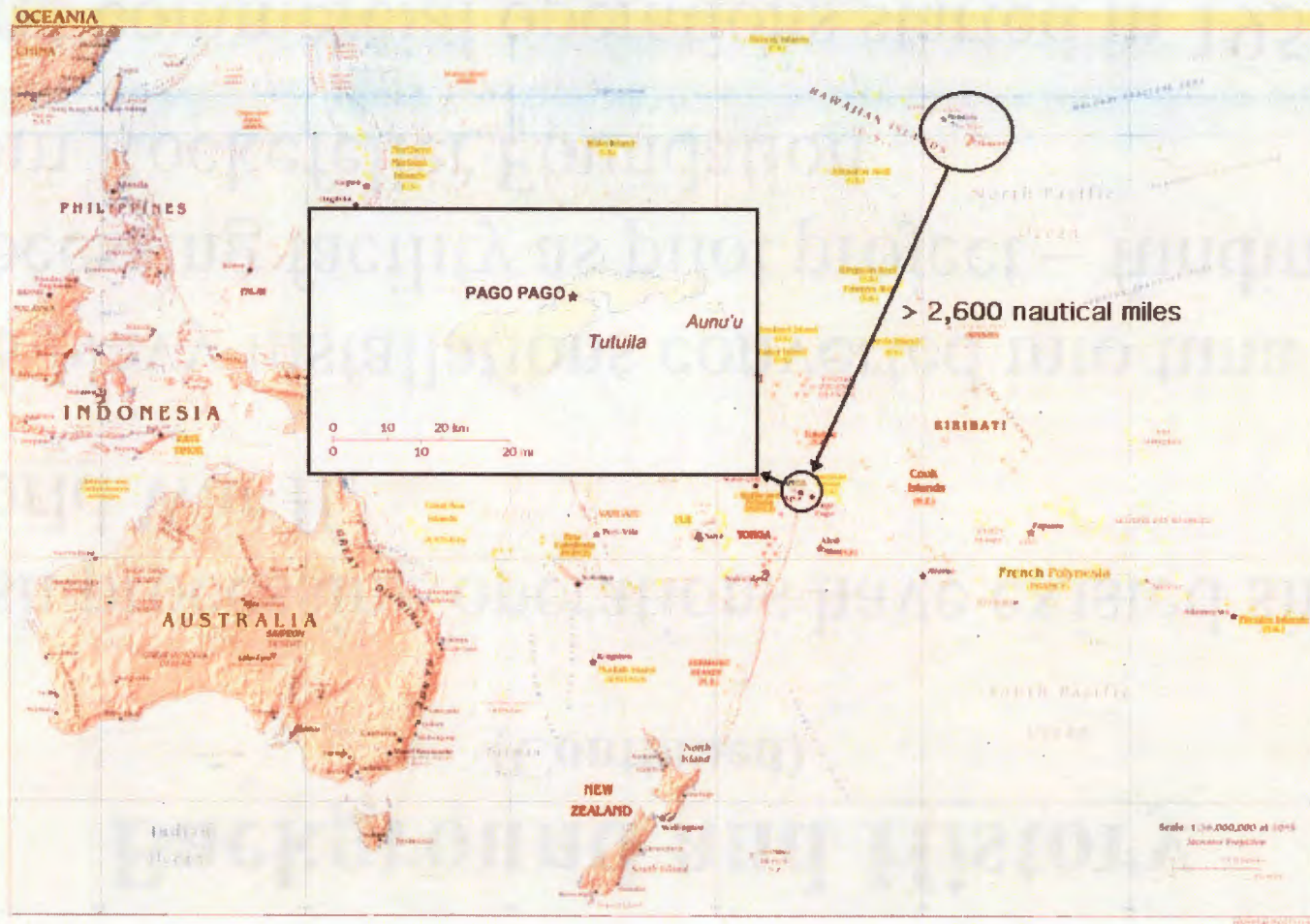
(Outline)

- Background and history of fishwaste disposal in American Samoa
- Studies conducted during period of initial ocean disposal of fishwaste
- Site designation of a permanent ocean disposal site
- Monitoring of fishwaste disposal operations



# Background and History

- Tutuila Island (American Samoa) located over 2,600 nautical miles S-SW of Hawaiian Islands





# **Background and History**

**(Continued)**

- Fish processing operations have existed since World War II
- US Navy installations converted into tuna processing facility as pilot project – funding from Rockefeller Foundation
- First commercial operations started in 1953 (Van Camp Seafoods – Chicken of the Sea)
- Second commercial operations started in 1963 (StarKist)



# Background and History

(Continued)

Currently.....



- Both canneries combine to produce about 2/3 of world market share of canned tuna

- Canneries employ the bulk of the available American Samoa work force





# **Background and History**

**(Continued)**

- Fishwastes discharged into Pago Pago Harbor until 1974 – solids removed from waste stream
- Dissolved air flotation (DAF) processing installed in 1974-1975 to reduce organic loading to harbor
- DAF sludge disposed in landfill sites on island
  - Only feasible alternative at the time
  - Higher volumes of fishwaste



# **Background and History**

**(Continued)**

- Problems with land disposal
  - Transportation by truck through downtown and residential areas
  - Noxious odors (hydrogen sulfide)
  - Inadequate cover material – lack of soil
  - Insects and vermin – human health issues
- Land disposal facility shut down following deaths of a child and adult in sludge pond



# **Initial Ocean Disposal of Fish Wastes**

- Government and public support in American Samoa for ocean disposal alternative
- EPA Region 9 issued 3-year interim permit for ocean disposal in 1979
  - Analysis of waste stream
  - Monitoring of ocean disposal operations
  - Field studies conducted in 1983
  - NOAA plume study – 1986 report
  - Extension of interim permit



# **Initial Ocean Disposal of Fish Wastes**

## **(Continued)**

- Interim site located about 2 nautical miles offshore
- Volumes from both canneries less than 40,000 gallons per day (combined total)
- Disposal vessels typically made one trip per day
- Average of 7.2 million gallons per year from 1981-1988 (both canneries combined)

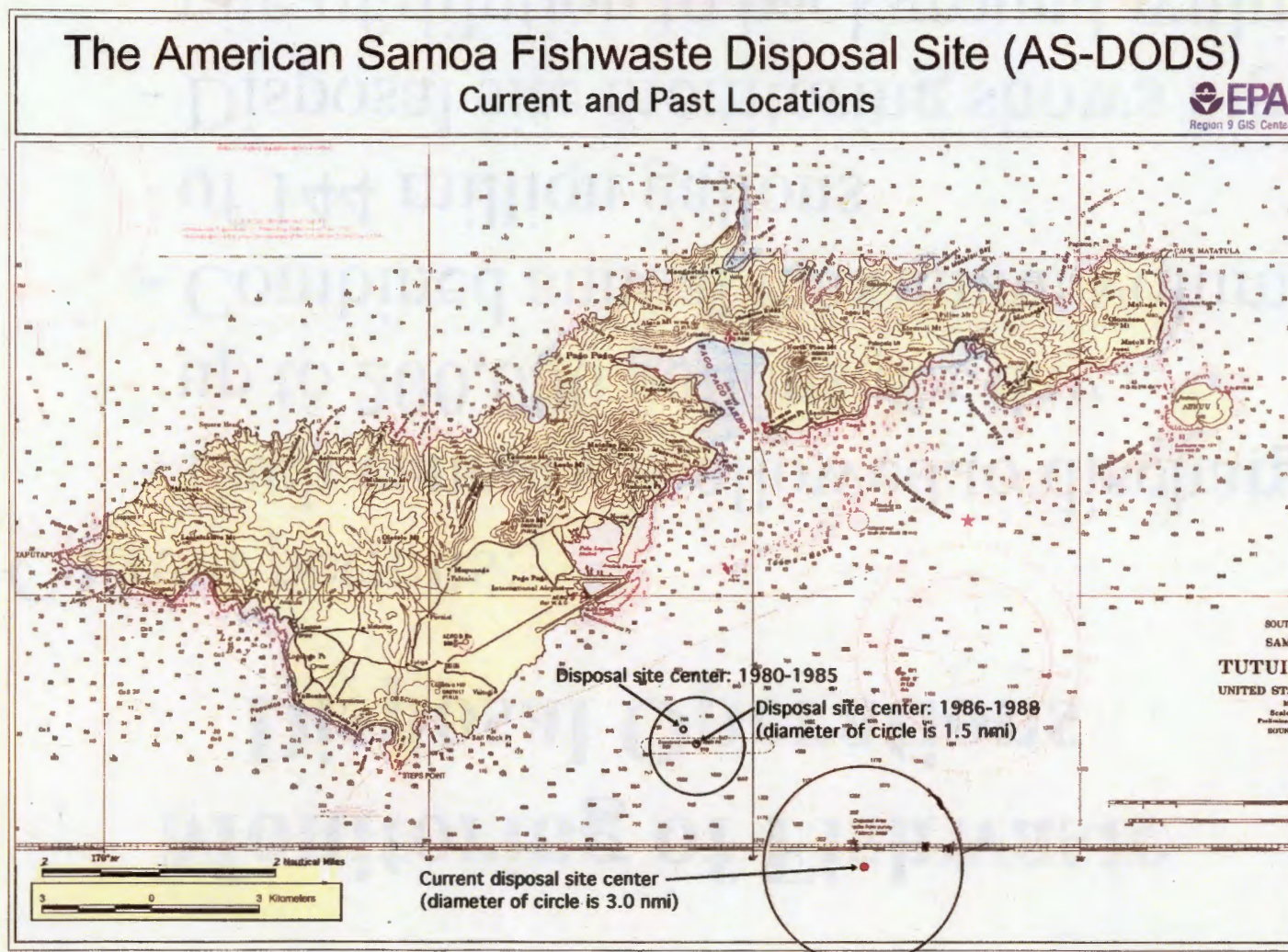


# **Designation of Permanent Ocean Disposal Site**

- Series of research permits in 1986, 1987, and 1988
- Analysis of ocean disposal site alternatives
  - interim and deeper sites (2 and 4.5 nmi)
- Preferred alternative chosen by EPA Region 9
  - No expected adverse impacts to coastal resources, submerged resources, or harbor
  - Larger diameter to contain plume
  - Farther offshore, away from reef bank



# Designation of Permanent Ocean Disposal Site (continued)





# **Monitoring of Fishwaste Disposal Operations**

- Current permits:
  - Each cannery is allowed to discharge up to 200,000 gallons per day
  - Combined annual maximum volume of 144 million gallons
  - Disposal site monitoring shows high rate of dilution to background within disposal site



# **Monitoring of Fishwaste Disposal Operations**

**(Continued)**

- **Canneries submit reports to EPA Region 9**
  - **Waste stream parameters**
  - **Volumes of combined fishwaste disposed at ocean disposal site**
  - **Tracking of transit and disposal operations**
  - **Disposal site monitoring of basic water quality parameters**



# Monitoring of Fishwaste Disposal Operations (Continued)



Fishwaste discharged  
directly into prop wash





# Monitoring of Fishwaste Disposal Operations (Continued)

- Disposal vessel uses GPS tracking equipment with real time display and data logger to record transit and disposal operations





# **Monitoring of Fishwaste Disposal Operations**

**(Continued)**

- Confirmatory studies in 1997-1998
  - Analysis of waste stream
  - Bioassays: exposures to waste stream
  - Plume modeling re-evaluation
- Confirmatory monitoring site visit in 2001
  - Observe and verify loading, transit and disposal operations
  - Independent GPS tracking and data collection



# Monitoring of Fishwaste Disposal Operations (Continued)

- Independent GPS tracking and data collection — portable equipment
- Data processed later in regional office and evaluated for compliance

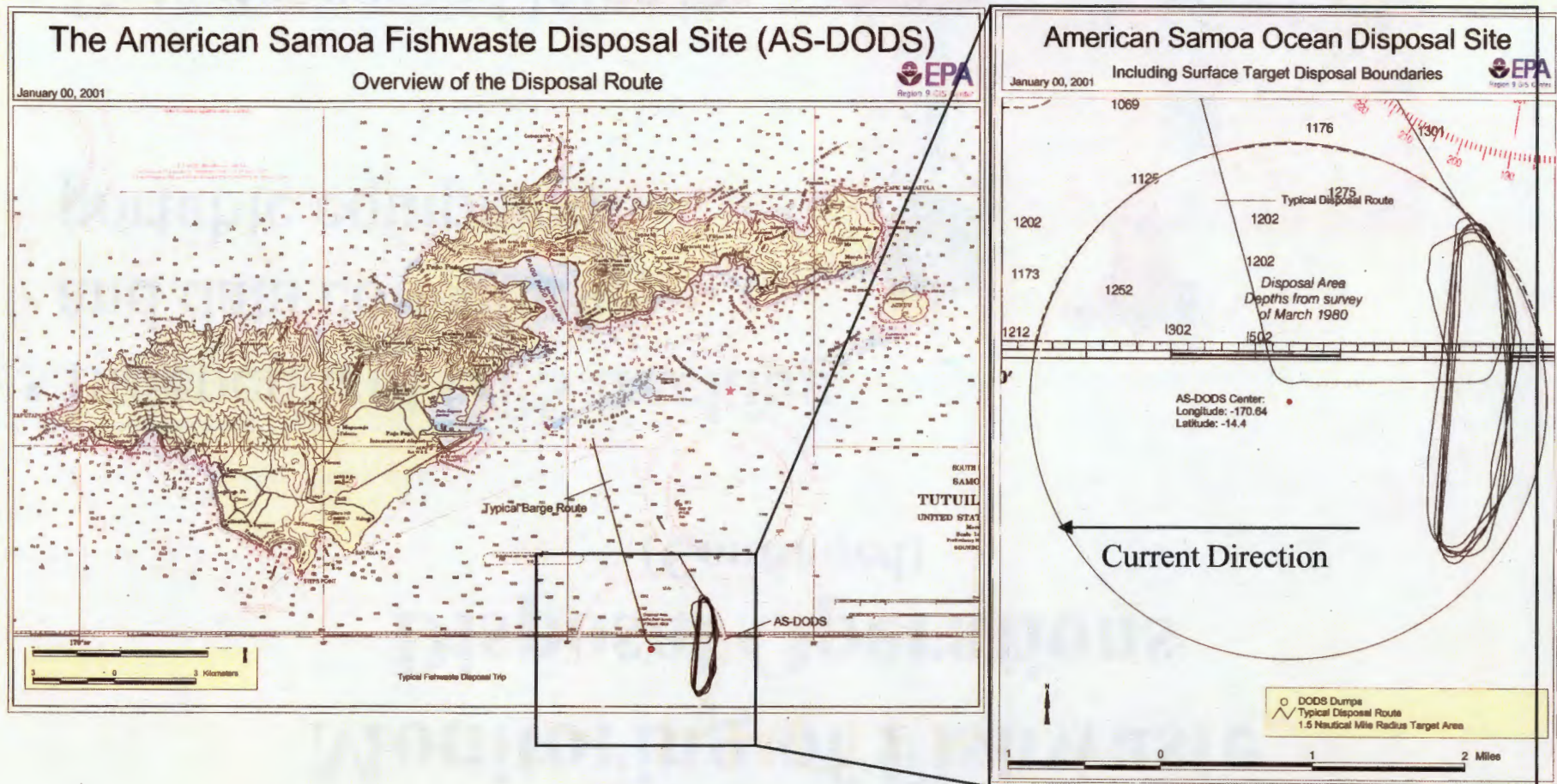




# Monitoring of Fishwaste Disposal Operations

## (Continued)

- Typical past and present disposal operations









# **Any Questions?**

## **EPA Ocean Dumping Program**

**Headquarters Contact:**

**Elizabeth Kim**

**202-566-1270**

**[kim.elizabeth@epa.gov](mailto:kim.elizabeth@epa.gov)**

**Region 9 Contact:**

**Allan Ota**

**415-972-3476**

**[ota.allan@epa.gov](mailto:ota.allan@epa.gov)**



# Fish waste disposal in American Samoa

- Elimination of ocean disposal of "high strength" fish waste
- Removal of solids from waste stream
- Treatment and beneficial re-use: conversion of solid waste to fish meal
- Limited disposal at landfill site – for solid waste not suitable for conversion
- Utilizes existing NPDES permit for discharge of treated waste water

